

Tennessee Greenways and Trails Plan

Chapter 1 - Introduction

Envision the Future

It's the year 2020, children across Tennessee call our state home. But what does this home look like?

Imagine Being able to safely travel to parks, schools, offices and shopping areas without stepping into an automobile Our mountains are still green, and our rivers run clear Air pollution is a thing of the past Heart disease and cancer are rare compared to our past generations because people are active and fit Our state's most precious natural treasures are forever preserved Our economy is thriving because Tennessee is such a wonderful place to live and visit You can get on your bike and safely ride for hundreds of miles in any direction You can put on your backpack and hike Tennessee's seemingly unexplored wilderness You can paddle peacefully along the crystal rivers and enjoy nature and wildlife From the green, lush valleys framed by the towering mountains of East Tennessee to the bottomland hardwood forests of West Tennessee and the pastoral hills in between, Greenways and Trails have connected our communities, people and wildlife to preserve this beautiful place a legacy that is Our Tennessee.

This vision created by the Governor's Council on Greenways and Trails is not out of reach, but will not happen without making some strategic changes. Some of these changes are simple; others will require more effort. The long-term impact is significant and positive for Tennessee.

HISTORY OF TRAILS AND GREENWAYS IN TENNESSEE

Trails have played an important role in the development of Tennessee. From the Native American networks of trails such as the Chickasaw Trace in west Tennessee and Black Fox Trail through middle and east Tennessee, to the Appalachian National Scenic Trail along the ridge tops of the Cherokee National Forest and the Great Smoky Mountains National Park, trails have been and are an important part of Tennessee's landscape. Tennessee's trails have significantly influenced the history of the United States and aided in the western movement of U.S. settlement.

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Trails and greenways were an integral part of Tennessee's infrastructure long before it existed as a state. From time immemorial her rivers and streams were a major source of sustenance and the major routes of travel for Native Americans. They remained so well into the nineteenth century for the Europeans who followed and replaced them. The earliest European explorers also found a complex network of foot paths that had been actively used by Native Americans for countless centuries; settlers soon cleared many of them for wagon roads, and some eventually became the highways of today.

Significant trails of the past that were responsible for establishing the Tennessee of today include:

- § The Wilderness Road, blazed by Daniel Boone in 1775 and introducing white settlers to Tennessee and Kentucky
- § The Overmountain Victory National Historic Trail, following the path taken by volunteers from the Watauga settlement to Kings Mountain, South Carolina during the Revolutionary War
- § The Natchez Trace, established as a land-side return route for traders along the Tennessee and Mississippi Rivers
- § The Trail of Tears National Historic Trail, a memorial to the tragedy caused by the removal of the Cherokee Nation from the East
- § The Appalachian Trail, the first long-distance recreational trail developed in the state, envisioned by Benton MacKaye in 1921

The Appalachian Trail — Tennessee's First Recreation Trail

In the 1920's, Benton MacKaye envisioned this greenway trail as a way to protect the spine of the Appalachian Mountains from urban sprawl and to get Americans out of the cities and back into nature. Volunteers from local groups such as the Smoky Mountain Hiking Club constructed the trail in the 1920's and 1930's. The Appalachian Trail (AT) was initially completed and dedicated in 1937 and now stretches over 2,100 miles and through 13 states from Springer Mountain in Georgia to Mt. Katahdin in Maine. It was designated a National Scenic Trail in the National Trails System Act of 1968. The AT in Tennessee is currently 225 miles long and is maintained by the National Park Service and the U.S. Forest Service in partnership with the Smoky Mountains Hiking Club and the Tennessee Eastman Hiking Club.

Insert map of Appalachian Trail to show route (from ATC)

Our state's trails represent the history of Tennessee. Many of our historic routes and trails still exist today and are a memorial to our ancestors' courage and ambition. The trails we create in our generation will be a legacy to our future generations.

RECENT GREENWAYS & TRAILS INITIATIVES IN TENNESSEE

The greenways and trails concept is neither new nor unique to Tennessee. In Tennessee, the first greenway was the Appalachian Trail, proposed in 1921. Since then

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greenways and trails have become a way of life for many Tennesseans — a way to explore the beauty and treasures of Tennessee.

In 1968, two significant trail-related events occurred in Tennessee. First, the *National Trails System Act* was passed by Congress designating national scenic, historic and recreation trails. The Appalachian Trail was designated as one of the first national scenic trails along with the Pacific Crest Trail along the Pacific coast.

Second, several dedicated hiking enthusiasts met at Cumberland Mountain State Park and created a statewide organization called the Tennessee Trails Association (TTA). Working with key legislators, their efforts led to the passage of the 1971 *Tennessee Trails System Act*. The 1971 act created state scenic trails and a state recreation trails system. The current designated state scenic trails include: the Appalachian National Scenic Trail, the Cumberland State Scenic Trail, the Trail of Tears National Historic Trail, the John Muir State Scenic Trail, the Trail of the Lonesome Pine State Scenic Trail, the Chickasaw Bluffs State Scenic Trail, the Natchez Trace, and the Overmountain Victory National Historic Trail.

The latest impetus for greenways and trails began in the mid-1980s with the President's Commission on Americans Outdoors. This commission was established by President Ronald Reagan and chaired by Tennessee Governor Lamar Alexander and directed by Knoxville Mayor Victor Ashe. The commission called for the establishment of a network of greenways across America. The Tennesseans Outdoors Report followed this mission by recommending the establishment of four statewide north/south recreation corridors, the accelerated implementation of the *Tennessee Scenic Rivers Act of 1968* and the *Tennessee Trails System Act of 1971*, the development of bicycle trails, the conversion of abandoned railroad corridors to trails and the formation of urban greenway and trail programs.

For the past two decades, communities across the state have developed trails and greenways for recreation, natural and cultural resource protection and community enhancement. These efforts have provided numerous trails and protected corridors of open space throughout Tennessee. Although many local efforts have been phenomenally successful, there have been no mechanisms to help weave these greenways and trails into a statewide network of protected natural corridors and trails.

GOVERNOR'S INITIATIVE ON GREENWAYS AND TRAILS

The most vocal public recreation issue that emerged during the development of the 1995-1999 *Tennessee State Recreation Plan* was the need for a statewide greenways and trails system. Citizens wanted better access to existing trails and new trail development. The issues that arose were as varied as the types of trails. Walkers, runners, canoers, skaters, on- and off-road cyclists, and off-highway motorized vehicle enthusiasts all agreed on the need for statewide coordination of greenway and trail development.

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Coinciding with the demand for trail opportunities, a new, local grassroots movement emerged in Tennessee during the early 1990's — the creation of local greenways. These linear corridors of open space compliment the creation of trails. Greenways and trails are not synonymous, but opportunities for greenways and trails to co-exist and benefit one another continue to grow.

In 1996, in celebration of Tennessee's Bicentennial, Governor Don Sundquist shared his vision for a statewide system of greenways and trails. He challenged communities across Tennessee to plan and develop greenways and trails, and to establish interagency partnerships that would create a comprehensive greenways and trails system across the state. The Bicentennial Greenways and Trails Program became Governor Sundquist's gift to Tennessee -- a catalyst for creating a legacy of conservation and recreation opportunities that will be fully realized by future generations.

Governor Sundquist charged the Department of Environment and Conservation to create a plan that would lead to realizing his vision. This plan is intended to meet the broad recreation needs of all Tennesseans, provide opportunities for alternative transportation, stimulate economic growth, conserve our state's most treasured resources, and improve the overall quality of life in Tennessee.

In 1998, Governor Sundquist created the Governor's Council on Greenways and Trails, an eighteen-member advisory board to oversee the development of the Tennessee Greenways and Trails Plan and to address critical issues in the establishment of a statewide system of greenways and trails. The Governor's Council is composed of diverse users representing motorized, non-motorized and multi-use trails from across the state. In addition, representatives of conservation, natural resources, industry and farming were appointed to the Council. State and federal government partners were also invited to participate in the Council providing a vital role in developing and implementing the plan. The Governor's Council was created by a Governor's Charter with objectives:

- Plan and promote activities to address greenways and trails needs in Tennessee;
- Foster partnerships and encourage the participation of local, federal, private and non-profit organizations to accomplish the objectives of the Charter; and
- Plan for the development of a statewide system of greenways and trails for the benefit of all Tennesseans.

To aid Tennessee in the development of the Greenways and Trails Plan, a partnership was formed with the National Park Service's Rivers, Trails and Conservation Assistance Program (NPS-RTCA), bringing additional expertise and staff support to the project. Together with the Department of Environment and Conservation and the Conservation Fund, three regional education workshops were held across Tennessee. With over 350 in attendance, the workshops highlighted the strong interest in greenways and trails throughout the state and the need for statewide coordination and assistance to aid our communities. The National Park Service's RTCA staff have continued to provide substantial support in the development of the Tennessee Greenways and Trails Plan.

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In early 1998, TDEC-RRD and the NPS-RTCA hosted nine regional public input workshops across Tennessee. Over 400 participants throughout the state outlined issues, needs, interests and opportunities for greenways and trails both locally and statewide. A user preference survey was also implemented at these meetings to gain different perspectives on the user interests and specific needs of various greenway and trail user groups. (Analysis of public input is provided in Appendix B)

Since April 1998, the Governor's Council on Greenways and Trails has met quarterly to gather information and discuss issues related to the development of the Greenways and Trails Plan. Individual committees were formed to address design, policy, education, funding and coordination of various agency issues.

Based on meetings with various federal and state agencies throughout the state and research performed by the staff and members of the Governor's Council on Greenways and Trails, the Tennessee Greenways and Trails Plan brings together all greenways and trails interests into a strategic plan. Some of the recommendations may require amendments to existing administrative rules or the consideration of future changes in state statutes. It is suggested that each recommendation be given immediate attention, and that appropriate changes be pursued as soon as possible to help local governments and organizations across the state develop greenways and trails. This plan will be reviewed annually for effectiveness and implementation with updates prepared every two to five years as needed.

To make a greenway is to make a community

— Charles Little, author of *Greenways for America*

VISION AND GOALS OF THE PLAN

The Tennessee Greenways and Trails Plan recommends a statewide system of greenways and trails. Policies are recommended in Chapter 4 that encourage greenways and trails planning, development and implementation from the grass roots level to public/private partnerships.

Model projects are highlighted throughout the plan showing innovative ideas and strategies currently being implemented in Tennessee. These projects are examples of community-based initiatives that emphasize the potential that every Tennessee community has for creativity and vision in the implementation of local greenway and trail projects.

As with any new initiative, there are certain policies and programs that, if implemented, will stimulate the establishment of greenways and trails. This plan is an attempt to exhibit how existing state policies and programs can best be utilized for the benefit of greenways and trails development. Furthermore, there is a need to change or create specific policies where there are current limitations or obstacles. This plan proposes **strategic policy recommendations** that will foster the creation of greenways and trails throughout the state for communities and all trail user groups. Without the

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implementation of these proposed policies at all levels, it will be impossible to fully achieve the vision set forth by the Governor's Council on Greenways and Trails.

The creation of this plan involved a cross-section of citizens, organizations and government agencies from across Tennessee focusing on creating a state-level greenways and trails program to meet the diverse interests and needs of our citizens.

A Vision for the Tennessee Greenways and Trails Plan

The Tennessee Greenways and Trails Plan will promote policies for creating an interconnected, accessible network of greenways and trails across Tennessee. This plan will clarify the state's role as the leader in empowering Tennesseans to fashion such a system providing for:

- Environmental stewardship and conservation of our natural resources
- Economic and tourism development (eco-tourism)
- Educational opportunities
- Recreation, health and fitness opportunities
- Improved quality of life
- Preservation of our unique cultural heritage
- Promotion of alternative transportation
- Sustainable growth

Given the diversity and complexity of the greenways and trails issues and needs throughout Tennessee, the Governor's Council on Greenways and Trails has focused the scope of this plan on the following objectives:

1. To establish a state-level support structure for greenways and trails.
2. To address the barriers that prevent development of greenways and trails.
3. To offer incentives, programs and policies that enhance the development and protection of greenways and trails.
4. To provide greenway and trail resources through funding, organizational contacts and technical assistance.

Implementation of the plan will provide agencies, organizations and communities with the tools to mobilize public/private partnerships to create greenways and trails within every community of the state.

Governor's Council Goals for this Plan:

1. Propose the establishment of a statewide system of greenways and trails connecting Tennessee's most precious resources to our communities.
2. Promote the establishment of greenway conservation corridors that protect wildlife habitat and migration patterns, buffer our waterways and enhance the scenic and aesthetic quality of our state.
3. Encourage communities to develop local trails and trail plans in coordination with surrounding communities.

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4. Make Tennessee's roadways bicycle and pedestrian friendly and encourage alternative transportation.
5. Enhance and expand opportunities for non-motorized recreation trail development.
6. Develop the Cumberland Trail State Park as the backbone of Tennessee's greenways and trails system.
7. Create a statewide off-highway vehicle (OHV) program to increase opportunities for motorized recreation.
8. Provide accessible trails for persons with disabilities and people of all ages.
9. Expand opportunities and modify policies so that every community in the state has opportunities to create greenways and trails.
10. Maximize public/private partnerships to foster the development of a diverse system of greenways and trails.
11. Permanently protect Tennessee's most precious resources through acquisition and encourage conservation and recreation easements.
12. Minimize trail development impacts to the natural and cultural environment.
13. Establish dedicated full-time Greenways and Trails support positions within the Department of Environment and Conservation (TDEC) and the Department of Transportation (TDOT) to provide technical and educational assistance to agencies and organizations implementing the greenways and trails plan.
14. Encourage the TDEC, the TDOT, the Tennessee Wildlife Resources Agency (TWRA), the Tennessee Department of Agriculture (TDOA) and federal partners to coordinate efforts to develop statewide greenways and trails.
15. Establish a greenways and trails information and education clearinghouse within TDEC.
16. Create permanent funding mechanisms to support the establishment of a statewide system of greenways and trails.
17. Preserve Tennessee's abandoned railroad corridors for recreation opportunities today and possible future transportation opportunities.

IMPLEMENTING THE PLAN

This statewide greenways and trails initiative has the potential to positively impact many people in many ways. Tennesseans greatly value the importance of a clean environment, protected natural resources, healthy and active citizens, a growing and energetic economy, and an overall quality of life found nowhere else in the world.

It is the goal of this planning initiative that every citizen of Tennessee have convenient access to a greenway or trail. By implementing this plan, every community in Tennessee, regardless of size or location, can have a greenway or trail to call its own.

Greenways also provide the opportunity to protect the state's most precious natural and cultural resources, improve water quality, provide a home to native plants and animals and preserve the state's scenic vistas.

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Creating greenways and trails is not an easy task that can be accomplished overnight, but the long-term rewards are worth the effort. If accomplished, greenways and trails can improve the state's economy, recreation opportunities, health of Tennesseans and the natural environment and overall quality of life. It takes initiative and dedication locally to make greenways and trails happen.

Working together within our communities and with neighbors, individuals can achieve a vision of Tennessee filled with greenways and trails. Tennessee greenways and trails will help celebrate and preserve the unique character of our state.

In 1998, the Tennessee legislature passed Public Chapter 1101, requiring that communities create urban growth boundaries and plan for infrastructure improvements. With this planning initiative underway, now is the time to think about greenways and trails and the role they can and will play in local communities. They offer tremendous opportunities for meeting open space and recreation needs and stimulating development of alternative transportation in infrastructure planning. Greenways and trails should be thought of as Tennessee's green infrastructure .

In July of 1999, Governor Don Sundquist and First Lady Martha Sundquist launched a new campaign called Tennessee Looks Good to Me. The focus of this initiative is to improve the visual quality of Tennessee, eliminate trash along our roads and streams, preserve scenic open space and to beautify our state by planting wildflowers and creating greenways. Every community across Tennessee has been invited to join the Governor and Mrs. Sundquist in making Tennessee a better place to live and for visitors to enjoy.

From the preservation of natural corridors to establishing motorized and non-motorized trail opportunities, greenways and trails are a common sense approach to conservation that also enhances the economic potential of Tennessee.

This plan marks the beginning of a new era in Tennessee, toward a future filled with greenways and trails throughout our state.

Millennium Trails

To engage all Americans in marking the new millennium in ways that will leave a lasting legacy, the White House has established the millennium trails program to "Honor the Past - Imagine the Future." Millennium Trails is a partnership between the White House Millennium Council, U.S. Department of Transportation and Rails-to-Trails Conservancy in cooperation with numerous other agencies and organizations.

Millennium Trails will recognize, promote and support trails as a means to preserve open spaces, interpret history and culture and enhance recreation and tourism. Under this initiative, more than 2,000 trails across America will be recognized, enhanced or built. These will include hiking trails, bicycle paths, greenways and scenic byways

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through rural and urban landscapes and cultural and heritage trails that preserve and commemorate major events in our nation's history.



As the first phase of Millennium Trails, 16 National Millennium Trails were designated, including four projects that benefit Tennessee. These Tennessee projects are:

The Appalachian National Scenic Trail — Stretching over two thousand miles from Georgia to Maine, the Appalachian Trail (AT) is a narrow footpath traversing the Appalachian Mountains' ridge-crests and major valleys. The need to protect the AT from encroaching development led to the passage of the National Trails System Act in 1968.

The Civil War Discovery Trail — Identifies and thematically connects the battlefields, military routes and sites of historic significance from the nation's most serious breakdown in domestic tranquility. It provides a lens through which contemporary Americans can view the war which tore the nation so dramatically asunder.

The Mississippi River Trail — Combines bicycling and blues by following the nation's mightiest river from Minneapolis to New Orleans. Envisioned as a bicycling route that will touch upon the cultural, historic and natural and habitat richness of the Mississippi River Valley, this trail will allow Americans to experience first-hand what Mark Twain has described as the 'body of the nation'.

The Unicoi Turnpike — A 68-mile trail dating from the first millennium that carried Cherokee people from the flatlands east of the Smokies through the mountains to the hills of East Tennessee. It provided similar passage for European settlers in Colonial and post-revolutionary times.

Each state was also asked to designate a Millennium Legacy Trail to reflect the essence and spirit of the areas they represent. Tennessee's Millennium Legacy Trail was awarded to the **Cumberland Trail State Park**, Tennessee's first linear State Park,

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starting at Signal Point in Hamilton County and terminating at Cumberland Gap National Historic Park on the Kentucky and Virginia borders. Community Legacy Trail announcements will be made in the summer of 2000.

CHAPTER 2 - Defining Greenways & Trails

What are Greenways & Trails?

What is a Greenway? There are as many definitions for the term greenway as there are actual greenways around the nation. Charles Little, in his book *Greenways for America*,¹ provided the following definition:

A **greenway** is a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, scenic road, or other route. It is any natural or landscaped course for pedestrian or bicycle passage; an open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas; locally, certain strip or linear parks designated as parkway or greenbelt.

Little describes five general types of greenways:

1. *Urban riverside* (or other water body) *greenways*, usually created as part of (or instead of) a redevelopment program along neglected, often run-down, city waterfronts.
2. *Recreational greenways*, featuring paths and trails of various kinds, often of relatively long distance, based on natural corridors as well as canals, abandoned railbeds, and public rights-of-way.
3. *Ecologically significant natural corridors*, usually along rivers and streams and less often ridgelines, to provide for wildlife migration and species interchange, nature study, and hiking.
4. *Scenic and historic routes*, usually along a road, highway or waterway, the most representative of them making an effort to provide pedestrian access along the route or at least places to alight from the car.
5. *Comprehensive greenway systems* or networks, usually based on natural landforms such as valleys or ridges but sometimes simply an opportunistic assemblage of greenways and open spaces of various kinds to create an alternative municipal or regional green infrastructure.²

Greenways require a variety of design considerations depending on their type and the natural features that they include. In general, there are three specific features that define a greenway and influence its design:

- 1. Linearity**
- 2. Connectivity**
- 3. Resource Protection**

¹ Greenways for America, by Charles Little, 1990

² Greenways: A Guide for Planning, Design and Development, by Charles A. Flink and Robert M. Searns, 1993

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Greenways in essence are *linear* in nature. They can follow natural features like river corridors and ridgelines or man-made features such as abandoned railroad rights-of-way and utility rights-of-way. Because of their linearity, they provide greater access to more people at less cost than traditional parks. Their linearity also provides a functional design for wildlife migration.

Greenways *connect* places and resources. Whether connecting a town hall to a park or connecting wildlife to natural areas, they should be created with a destination in mind. For wildlife, this connectivity provides opportunities to move from food sources to nesting areas without interfacing urban growth. For people, this connectivity provides an ultimate destination that makes the trip meaningful. People can walk or ride a bicycle from home to the office or school, the park, or shopping areas without having to use an automobile.

Greenways focus on *protecting resources*. Whether establishing a buffer zone along the riparian edge of a river or maintaining natural forested acreage between development and a wetland or habitat for threatened species, greenways can play a critical role in protecting our most significant natural or cultural resources. In an urban environment, greenways are fast becoming the only areas of green open space remaining to help us get back to nature.

Trails and greenways are not synonymous. Whereas *greenways* denote the preservation or designation of a corridor that protects cultural or natural resources or the creation of linear conservation areas, *trails* differ in that they are primarily pathways. Trails provide opportunities for recreation, alternative transportation, viewing scenic vistas, exploring plants, wildlife, natural treasures, historic places and much more. In Tennessee, there are trails to accommodate persons with disabilities, roller-bladers, cyclists, hikers, strollers, off-road vehicle enthusiasts, and horseback riders. Trails provide Tennesseans with an opportunity to access the wonders of our beautiful state. For the purposes of this plan, trails are not paved automobile driving routes nor sidewalks (except when sidewalks are used to link greenways and trails).

There are many types of trails in Tennessee that must be considered in the development of a plan. Tennessee is fortunate to have such diversity of landscape and opportunities for trail use throughout the state. In general, there are three categories of trails in Tennessee: motorized trails, non-motorized trails and multi-use (diverse) trails. There is a basic need for trails systems for all of these categories. Loop, spider web, and inter-connected trails make the best use of the land and are preferred by most users, giving users the most options for trail enjoyment.

MOTORIZED -

Motorized trails are trails that are primarily used by off-highway vehicles (OHVs) which are also often called off-road vehicles (ORVs). OHVs come in many shapes and forms. The most typical are off-road motorcycles, all-terrain vehicles (ATVs) and four-wheel drive vehicles such as jeeps and trucks. Also included in this category are dune-

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buggies which are more similar in their trail usage to four-wheel drive vehicles. Among ATVs, there are the two-wheel drive sport-type which use trails in a fashion similar to motorcycles and utility-type ATVs that are usually four-wheel drive and designed for a slower pace and greater load capacity.

OHV trails are as diverse as the machinery used because each type has a different rider style, travel pace and size.

Off-Road Motorcycle Trails

Off-road motorcycle trails and dirt bike trails are traditionally backcountry, narrow dirt trails. Riders enjoy the difficulty of quick turns and rough terrain in this challenging, endurance sport. In recent years, motorcycle events such as hare scrambles and enduros have become popular around the country, where motorcycle riders compete in a backcountry course.

Off-road motorcycle riders enjoy a variety of terrain, but typically one-way, narrow loop trails with challenging topography. Motorcycles are the faster-paced of OHVs, therefore requiring greater trail lengths to provide for a day-ride without repetition of trails. Depending on terrain and difficulty, motorcycles may travel up to 30 mph, although average speed is 6-10 mph. Trails are narrow so greater mileage can be more tightly compacted onto the land surface. Trail coverage may vary from 10-15 miles per day for beginners, and up to 60-90 miles per day for experts.

Motorcyclists prefer trail lengths of 10-40 miles in loop format, or up to 200 miles in a grid format. Variable trail topography is preferred, ranging from level to steep slopes of up to 25%. Where steepest slopes occur, alternate routes of less severe topography should be available. One-way single-track trail width should be 12-24 inches wide on the ground surface with clear width of 32-40 inches and a clear height of 6-7 feet. Natural surfaces such as clay, soil, and sand are preferred, although some amount of subsurface rock is desirable for tread longevity and stability.

All-Terrain Vehicle Trails (ATVs) —

For most users, ATVs are easy-going motorized transportation into the woods. Less aggressive and invasive than four-wheel drive vehicles and off-road motorcycles, ATV riders typically prefer gentler terrain and trails more narrow than can be accessed by four-wheel drive vehicles, yet wider than motorcycle trails. ATV riders use ATVs for several purposes. For many people with limited physical ability or in poor health, ATVs are a way to access the outdoors where otherwise they would not have the opportunity. Hunters and farmers also use ATVs regularly to quickly access remote areas and transport heavy equipment and materials.

ATVs offer an opportunity for recreation and enjoyment of the outdoors for persons who otherwise may not have the opportunity to experience such places. As with all motorized recreation, safety precautions are important for persons riding ATVs.

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Four-Wheel Drive Trails -

Like motorcycle trails, four-wheel drive jeep riders enjoy exploring the deep backcountry in specially designed vehicles that allow them to access areas not typically accessible to traditional automobiles. Four-wheel drive trails must be wider than motorcycle and ATV trails to accommodate the wider vehicles. Like other motorized trails, one-way loop trails are an important safety feature and make it easier for larger group riding events.

Four-wheel drive riders typically travel slowly and methodically to traverse intricate terrain. Getting out of mud holes and climbing steep terrain without tipping over are part of the sport's thrill.

Providing Motorized Trails -

Motorized trails can be shared by the various forms of OHVs, although this is not preferred. Trail areas, however, can be shared through proper trail design. Four-wheel drive trails around the perimeter of an area provide not only a method of isolating jeeps (the largest and slowest of off-road motorized vehicles), but also provide a safety and accessibility factor for ATV and motorcycle riders. In a smaller concentric circle inside such a two-track perimeter can be ATV trails, and toward the center the narrowest trails for motorcycles only.

Motorized trails are not exclusive to rural landscapes. Opportunities exist to create motorized trails within communities or suburban areas. In Arizona, Pima County (Tucson) has established a partnership with local OHV clubs to establish an OHV park for all types of motorized users. Programs are being established that provide incentives for youth to participate in the sport provided that they remain in school with good grades and do not participate in criminal activities.

Motorized trail opportunities in Tennessee are diminishing rapidly, while the demand and interest in the sport is growing. Areas traditionally used for motorized recreation are being closed for a variety of reasons:

- Environmental impact
- Federal/State budget cutbacks/limited funds to manage/maintain OHV trails
- Urban/suburban growth
- Liability/safety concerns
- Conflict among different user groups
- Bad reputation (behaviors) of users
- Management/ownership changes
- Noise

Currently there is no government agency within Tennessee designated with the responsibility to provide for motorized recreation. Many government agencies, both federal and state, are limiting or eliminating the permissible use of OHVs on public land. Increasing numbers of motorized users continue to put pressure on existing trails and decreasing federal and state budgets continue to decrease the number of available trails. Private landowners, including timber and mining companies, that historically permitted

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motorized recreation are often limiting access to their properties or selling their properties or user rights to other interests.

Where motorized trails remain, they often do not offer the experience desired by users because of their limited size, length or ability level. Just as there are different skill levels among hikers and cyclists, there are also different ability levels for OHVs. Some users enjoy a slow, peaceful journey along a fairly level trail surface, while others prefer steep, rocky terrain. Low, medium and high challenge trails are needed.

Turkey Bay OHV Park

Land Between the Lakes (LBL) has been home for the past 26 years to the best Off-Highway Vehicle (OHV) Park in the southeast United States. Set up as a pilot project by the Tennessee Valley Authority in the 1970's, approximately 2,300 acres of LBL was set aside for motorized recreation. Managers agree that the original purpose of the project was to alleviate illegal motorized recreation use on the overall 170,000 acre National Recreation Area, now under the management of the U.S. Forest Service. The result has been a surprisingly favorable trail model with years of testing to show that OHV Parks can be successful.

Turkey Bay is an enclosed, open-riding motorized recreation area. Users pay either an annual or short-term user fee and receive unlimited access to the OHV area. TVA indicates that revenues generated through the fees cover approximately 80% of the management and maintenance costs associated with operating the OHV area.

The University of Southern Illinois recently completed a study of Turkey Bay, concluding that environmental impacts due to OHV recreation were minimal and could be and have been contained. Management, routine maintenance and users following set rules have made a difference resulting in a successful solution for OHV recreation.³

NON-MOTORIZED -

Bicycling and walking are both important elements of an integrated, intermodal transportation system as well as for recreation. Constructing sidewalks, installing bicycle parking at bus/transit stations, teaching children to ride and walk safely, installing curb cuts and ramps for wheelchairs, striping bike lanes and building trails all contribute to our national transportation goals of safety, mobility, economic growth and trade and enhancement of communities and the natural environment.

Non-motorized trails are trails that are accessed using human power without the assistance of a motor. Examples of non-motorized trails include hiking, walking, jogging, mountain and road bicycling, equestrian and water trails.

³ Tennessee Valley Authority, Land Between the Lakes. Note: LBL is now under the management of the U.S.D.A. Forest Service.

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In addition to the different user types of non-motorized trails there are also different types of terrain and purpose. From urban trails to backcountry hiking, equestrian and mountain biking trails, non-motorized trails offer diverse opportunities for outdoor enthusiasts.

Urban Trails -

Urban trails provide the greatest opportunities for residents of Tennessee to enjoy a trail experience close to home. Whether for exercise, relaxation or the enjoyment of nature, urban trails provide a variety of opportunities to enhance the lives of our citizens and the character of our communities. Urban greenways and trails provide unique opportunities to enhance community features that already exist and to revitalize areas that have been forgotten or misused.

Urban greenways and trails come in many varieties -- from interior-park paths and urban mountain bike trails to urban conservation projects and urban greenways and trails focused on stimulating tourism and economic growth. The types of trails and trail surfaces are equally as varied. Urban trails are typically limited to bicycle and pedestrian users. In some areas, in-line skating is also permitted.

During the 1990's, communities across Tennessee took the lead in creating local greenway and trail projects. The variety of urban trail projects is as diverse as the communities themselves. Some communities have focused on developing elaborate, integrated greenway and trail networks throughout their communities that have inspired additional economic and social benefits.

The City of Chattanooga and Hamilton County worked with local private organizations to create a regional greenway system focused around the Tennessee River Park. Redevelopment of the riverfront and sustainable urban renewal efforts have inspired major capital investments that have led to the development of the Tennessee Aquarium, IMAX Theatre and many other attractions that have made downtown Chattanooga a prime tourism destination.

Other communities such as Johnson City are targeting greenway and trail development as a way to provide alternative transportation throughout the city. While the city expands, city planners are integrating bicycle and pedestrian routes into the community, linking older areas of the city with new development.

The City of Murfreesboro is focusing its greenway development on the rich historic and natural resources of the community, revitalizing properties along the once hidden Stones River and linking the Stones River National Battlefield with downtown Murfreesboro. Longer-term goals include expanding the trail along Stones River to ultimately link to the Nashville/Davidson County greenway system.

For some communities, greenways and trails are as simple as a half-mile path in a city park. In small communities, providing even a small walking trail enables neighbors

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to come together, interact socially and recreate in ways that they may not have otherwise in a rural area.

Urban greenways and trails also provide communities with opportunities to return to nature within an urban setting. Communities such as Covington have developed nature trails that serve an important role in local environmental education programs, while also providing opportunities for quiet, peaceful walks away from the busy lifestyle of the city.

The City of Knoxville has focused much of its greenway program on the revitalization of various creeks and rivers of the City. By cleaning up the waterways and providing access that brings people back to these resources, the community has become more conscious of the importance of water quality, and water quality is improving. Trails are already constructed along several creeks in the city, as well as along the Tennessee River through downtown Knoxville, with many more diverse trail projects on the drawing board.

Whether through a small walking trail or an elaborate system of trails, communities that are including trails in their overall recreation, transportation, and economic infrastructure are thriving, and residents are enjoying the new opportunities to explore their communities.

Accessible Trails

Accessible trails are trails that can be used by anyone, including persons with disabilities. Currently the federal government is reviewing proposed guidelines from the Universal Access Board that provide clearer direction to trail planners and developers for complying with the Americans with Disabilities Act of 1990 (ADA). These guidelines will also help planners determine how the ADA impacts backcountry and non-traditional trail developments. Design guidelines are readily available providing trail developers with detailed structural requirements for accessible trails.

Making trails accessible to everyone enhances the quality of life for all potential trail users, regardless of regulatory requirements. Accessible trails make trails available not only to persons using wheelchairs, but also to mothers pushing baby strollers and cyclists. Federal law requires all trail planners and developers to consider accessibility when constructing trails. In urban areas, accessible trails typically involve providing a hard surface of pavement or concrete, designing trails wide enough and flat enough to ensure that persons with limited mobility can safely enjoy the trail, and providing appropriate signage so that trail users understand the terrain and obstacles of the trail. It is important to remember that the ADA requires developers to consider provisions for all types of disabilities, not just persons who use wheelchairs. Parking and trailhead facilities, including restroom structures, must also meet accessibility guidelines.

Throughout Tennessee's trail system, opportunities for persons with disabilities to enjoy trails and the outdoors are increasing every day. New technologies such as off-road wheel chairs and natural accessible trail surfaces are broadening opportunities for accessible trail development.

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Hiking/backpacking

Backpacking and backcountry hiking for recreation has been popular in Tennessee for many years, tracing back to the early 1900's when Benton MacKaye first proposed development of the Appalachian Trail. Whether for a day hike or enjoying the backcountry for many days, hiking trails allow access to areas of Tennessee preserved for wildlife that cannot be otherwise accessed.

Many of our existing hiking trails follow the routes of Native Americans and early European settlers who explored the scenic beauty of our state. In 1971, the Tennessee legislature passed the Tennessee Trails System Act, designating our state's most historic and significant trail routes as scenic trails for foot traffic only.

(list TN Scenic Trails or map)

Hiking trails are a prime attraction to our state's most visited parks such as the Great Smoky Mountains National Park, Big South Fork National River and Recreation Area, and the Cherokee National Forest. Tennessee is home to over 3,000 miles of public hiking trails that help us explore some of the most breathtaking scenery in the United States.

Hiking trails are typically narrow paths composed of natural surface materials. The variety of hiking trails in Tennessee is enormous, ranging from steep, challenging, rocky climbs to the top of our state's highest peaks, to quiet, strolls through natural areas such as Radnor Lake State Park in Nashville, to the unique boardwalk system of trails at Reelfoot Lake that perch hikers above the bottomland hardwood wetlands and sensitive wildlife habitat. Tennessee has the variety, terrain, and scenery for hiking trails to provide unique opportunities and experiences for everyone.

Interest in hiking trails is continually on the rise in Tennessee. This past year, Governor Don Sundquist announced the creation of Tennessee's first linear state park, the Cumberland Trail State Park, continuing the state's commitment to this previously designated State Scenic Trail. An aggressive development campaign is under way in partnership with the Tennessee Trails Association and the Cumberland Trails Conference to complete this project by 2008. Once complete, the trail will follow the eastern escarpment of the Cumberland Plateau from Cumberland Gap National Historic Park to Signal Point National Military Park in Hamilton County, covering over 280 miles.

[map of Cumberland Trail State Park proposed route]

The Cumberland Trail Becomes Tennessee's First Linear State Park

On June 22, 1998, Gov. Don Sundquist announced the creation of the Cumberland Trail State Park, Tennessee's 53rd State Park and the only state park of its kind. "The Cumberland Trail will be a tremendous addition to our state park system and a jewel in Tennessee's expanding network of greenways and trails. Our action today will assure that it remains preserved and protected for future generations to enjoy," Sundquist said.

The Governor said that over the next eight to 10 years, the state will work in partnership with the Cumberland Trail Conference (CTC), an associate organization of the Tennessee Trails Association, and other volunteers to solicit public and private support for acquisition of additional land along the trail. The CTC is building the Cumberland Trail at the ground level with the help of volunteers.

Upon completion, the Cumberland Trail State Park -- the state's only linear park -- will be 280 miles long, cutting through 10 Tennessee counties from the Cumberland Gap National Historic Park on the Tennessee-Virginia-Kentucky border, to the Signal Point near Chattanooga.

Ninety-nine miles of the Cumberland Trail are open and ready for exploration. This includes the Cumberland Mountain segments above LaFollette and Jacksboro and in the Cumberland Gap National Military Park, the Grassy Cove segment on Black and Brady Mountain in Cumberland County, the Tennessee River Gorge segment in Prentice Cooper State Forest, and the Obed Wild and Scenic River segment in the Obed River Gorge and Catoosa WMA.

Road cycling

Bicycling is used for recreation among all age groups. In recent years, bicycling has once again become a popular mode of transportation for commuting to work and school. In urban areas, the benefits of bicycle commuting are obvious — exercise, less traffic congestion and parking headaches, and no automobile emissions. The Transportation Equity Act of the 21st Century (TEA-21) defines a bicycle transportation facility as a new or improved lane, path or shoulder for use by bicyclists and a traffic control device, shelter or parking facility for bicycles.

For many people, road bicycling is a passion. Being able to ride 25, 50, or even 100 miles in a day on a bicycle is not inconceivable for true cycling enthusiasts. Bicycle tours such as the B.R.A.T. (Bicycle Ride Across Tennessee) steadily attract hundreds of riders each year to enjoy the scenery of Tennessee and the challenge of competition.

Road cyclists are challenged with finding safe places to ride. In Tennessee, bicycles are designated a mode of transportation, yet bicycles and automobiles (and trucks) don't mix well within the standard road width. Special provisions must be made to keep cyclists safe and motorists educated about how to share the road with bicycles.

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The Tennessee Department of Transportation (TDOT) is currently designating bicycle routes throughout the state when wide shoulders and other criteria are met along roads. Currently, there are 680 miles of designated Bike Routes throughout Tennessee. When new state roadways are developed or existing roadways improved, the TDOT reviews the project design and incorporates bicycle rights-of-way where possible.

In general, road cyclists prefer to share the road with automobiles where wide road shoulders (minimum 3 feet), bike lane striping and special signage is provided. In some areas such as high-volume major roadways or highways where bicyclists are prohibited, separated bike paths may be more appropriate to accommodate bicycle use.

Nashville Takes First Steps to Become a Bicycle Friendly Community

During the Summer of 1999, Metropolitan Nashville initiated a pilot bikeway project that calls for establishing a network of bike-friendly streets that will connect downtown Nashville with neighborhoods and popular destinations on the west side of town. Design plans are currently underway with construction anticipated for 2000-2001. Numerous studies indicate that when you provide on-street bike facilities, it increases the number of people who use bikes as transportation, and it decreases the conflicts between bikes and cars, says Tim Netsch, Assistant Greenways Director for Nashville.

Mountain Bike Trails

Mountain biking has become one of the fastest growing forms of recreation in Tennessee. In the past decade, cycling has seen dramatic growth of more than 25 million riders nationwide (1992). This has created a new user group wanting to utilize the trails and backcountry roads throughout our state. Differing from road bicycles that ride on paved surfaces, mountain bikes allows users to leave the pavement behind to explore forests, fields and mountaintops. This versatility is fueling the growth of the sport. Riders of all ages and abilities are able to get off the busy streets and into a quiet and remote setting within a city park or national forest.

When planning trail systems for mountain bikes, most prefer a close association with the hiking community, stressing the quiet, non-polluting nature of their activity. As with hikers, cyclists prefer a variety of trails, terrain and distances to ride. With the large number of Tennesseans buying and riding mountain bikes, they are seeking the opportunity for a ride ranging from 2-3 miles along a quiet woods path to an experienced rider wanting to ride all day on rugged single-track backcountry trails in the mountains.

Trail closures to bicycles are being reduced as other user groups find they are good partners on multi-use trails. Education efforts toward the cycling community are paying off, teaching riders to yield to other users and respect the land through proper riding technique and giving time back to the trails with maintenance and trail building days. In a nationwide study conducted by the International Mountain Bike Association of their members, state parks were identified as the most frequented mountain biking areas,

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followed by county parks, city parks, national forests, and private land. Mountain bikers overall preferred single-track forest trails over gravel or paved roads.⁴

Tennessee Mountain Bike Clubs Partner to Build Trails

The Sumner County Cycle Club started working with the Gallatin Parks and Recreation Department and the U.S. Army Corps of Engineers at Lock 4 Park in 1992 to develop a system of hiking/biking trails along the shores of Old Hickory Lake. Several years later, there are nearly seven miles of scenic trails that have been built and maintained with thousands of volunteer hours.

Throughout Tennessee, similar partnerships have been fostered resulting in an explosion in mountain bike trail opportunities, including the support of the Appalachian Mountain Bike Club at Panther Creek State Park, resulting in an international award for design. The Ocoee district of the Cherokee National Forest has partnered with the Chattanooga Bicycle Club to build and maintain a network of over 50 miles of hiking/biking trails. The Mountain Trails Bicycle Club in Nashville has partnered with Montgomery Bell State Park (Dickson County) and Hamilton Creek Park (Percy Priest Lake) to assist in the construction and maintenance of more than 30 miles of trails. Clubs have also contributed to community hiking/biking trail projects, including Bowie Nature Park in Fairview, the City of Norris watershed, Chickasaw Trace Park near Columbia, Franklin State Forest and Edwards Point at Signal Mountain.

The mountain bicycle clubs of Tennessee have established a strong track record for being responsible stewards of our public land that has resulted in an expanding network of mountain bike trails throughout Tennessee.⁵

Equestrian Trails

Equestrian trails are recreational horse trails. Horseback riders enjoy a variety of terrain and topography, from mountain trails to open fields. In general, natural trail surfaces are preferred to make the ride enjoyable for both the rider and the horse.

Equestrians often do not peacefully coexist with other trail users. Horses can easily be spooked by motorized vehicles and bicycles, and pedestrians can often be overwhelmed by horses. Another issue to consider is the environmental impact horses have on trails, and the waste they leave behind. Horse droppings often contain seeds of a variety of non-native, invasive plants which can pose a special threat to native ecosystems.

Special facilities needed for horse trails include hitching posts and larger parking areas to accommodate horse trailers and trucks. Wrangler camps provide opportunities for overnight camping at horse trails. These camps allow equestrians to share specially

⁴ A National Study of Mountain Biking Opinion Leaders: Characteristics, Preferences, Attitudes and Conflicts. International Mountain Bike Association. September 1995

⁵ David Moore, Sumner County Cycle Club

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designed camping facilities with their horses. Popular wrangler camps in Tennessee are located at Big South Fork National Recreation Area and Natchez Trace State Park.

Water Trails

A water trail is a trail traveled by boaters. Water trails, also called Blueways are most typically paddle trails for canoe and kayak enthusiasts, but could also include other watercraft, including motorized boats. Whether on one of Tennessee's many rivers or lakes, water trails can provide a unique trail experience for people of various ability levels.

Water trails are not a new concept. Native Americans often utilized water routes as transportation corridors to hunt, trade and travel between tribal villages. The history of water routes also extends around the world to many cultures that rely on waterways for transportation. Water trails are primarily for recreation, but in some communities, water trails play a role in commuting to and from work.

Another important role of water trails is to promote environmental awareness. The environmental health of a river is vital to the success of a water trail. Likewise, the creation of water trails often exposes the need to clean and improve the quality of waterways and can serve as natural outdoor classrooms for children and adults.

The Tennessee Scenic Rivers Act, passed by the Tennessee Legislature in 1968, designated the following Tennessee waterways for conservation and recreation use:

(include list or map of State Scenic Rivers)

Long-distance water trails provide the opportunity for overnight camping along the river. Important water trail features include river or lake access points with suitable parking and boat loading areas, boat ramps or put-in/take-out, access points along the trails, signage or maps indicating routes and rules, and camping facilities for overnight trails.⁶

In Tennessee, a sensitive water trail issue is private property rights. Navigable waterways are considered open to the public, but the shoreline or lands along the river or waterway are often private property. It is important to provide suitable public access points that do not impact adjacent private property owners. Education is especially important for water trail users to help them understand the laws and appropriate etiquette, but also for the landowners along water trail routes.

Cross-Country Ski/Snow Shoe Trails

While Tennessee's snow season is typically sparse, there are those who enjoy cross-country skiing in the mountains of Northeast Tennessee. Popular at Roan Mountain State Park, cross-country ski trails allow visitors to enjoy the beauty of

⁶ Modern Water Trails: A guide to establishing and maintaining recreational waterways on fresh and salt water, 2nd edition, 1998. North American Water Trails, Inc.

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wintertime in the mountains. Due to Tennessee's mild climate, there is no organized effort to establish more cross-country ski trails.

Snowshoe trails are a new trend sweeping the country. Snowshoes allow access to remote areas and cross-country hiking during heavy snowfalls. Different types of snowshoes are designed for both jogging and hiking. The sport is becoming especially popular with youth in the northern and western portions of the United States.

Vertical/Rock Climbing and Caving Trails

To the average person, rock climbing and cave exploration seem like extreme sports, but the popularity is growing in Tennessee, as our state offers many opportunities for challenge and exploration of these unique natural features. Most people probably don't associate rock climbing and caving with trails, but like other natural areas, designated trails help preserve the natural features of the land.

Next to the obvious safety issues associated with these trails, one of the greatest concerns about rock climbing and caving is that these venues also tend to be fragile ecosystems with rare plants and animals. Rock climbing without an established path can result in vegetation removal and scarring of rock faces. Caves generally do not recover from human impact, so most of our impacts are permanent. Leave No Trace guidelines have been established for both caving and rock climbing to minimize the impacts of these sports on the natural environment.⁷

MULTI-USE

Multi-use trails can be a combination of motorized and non-motorized trail uses or any combination of non-motorized or motorized users. The primary concept is that more than one user group is sharing the same trail. Throughout Tennessee, many trails are considered multi-use. Multi-use trails invite various users — including walkers, joggers, bicyclists, people in wheelchairs, cross-country skiers, equestrians and others — to share a trail corridor collectively.⁸

Examples of multiple use trails include many urban trails where pedestrians and bicyclists share the same path. Another good example might be state park trails where equestrians, hikers and mountain bikers all utilize the same trail and facilities. Most motorized trails in Tennessee are multi-use with multiple types of OHVs utilizing the same corridor and sometimes non-motorized users as well.

Multi-Use Trail Conflict

Throughout Tennessee, trail user conflict is rare. People traditionally utilize trails to access the outdoors and, regardless of the trail user type, they usually share this

⁷ Leave No Trace Outdoor Skills & Ethics for Caving and Rock Climbing, developed by the National Outdoor Leadership School.

⁸ Trails for the Twenty-First Century: Planning, Design and Management Manual for Multi-Use Trails, Rails-to-Trails Conservancy, Washington, DC: Island Press, 1993.

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common enjoyment of the outdoors. In urban areas, trail conflict is increasing in Tennessee as the demand for trails grows. Conflicts are increasing urban trails primarily between cyclists and walkers who are sharing an increasingly congested trail route. Similarly, other trail users in non-urban settings are beginning to see increases in trail user conflict as the popularity of trails increases.

Conflict can arise when a specific trail has historically been used by a particular user group, such as a hiking trail, and then a new user group is introduced, such as motorized or mountain biking. Other times, conflict increases because trails are being damaged or altered by a specific user group, or the high volume multiple use exceeds the trail's capacity and the excess of users cannot safely and comfortably enjoy the same trail.

Some trail use conflict exists simply because people are utilizing trails for different reasons and expect different trail experiences. Various users may expect their trail experience to occur in a particular way and other user types can alter this pre-determined experience. Hikers traditionally enjoy trails for the natural environment, the serene experience of getting back to nature, and the physical rewards of hiking. Mountain bikers also enjoy nature and the physical rewards of mountain biking. Horses tend to have an inherent fear of bicycles and motorized vehicles and are prone to multiple use conflict.

(Insert Trail Courtesy Triangle, IMBA)

There is no simple solution. With the current limited availability of trails, users must work together to resolve differences. Conflict resolution can focus on some of the following topics and solutions:

- For what user groups is the terrain best suited?
- How wide is the trail and what type of trail users can the trail accommodate safely?
- Is this a rural or urban setting?
- What other trails are available to all users in the area?
- Should specific trails be closed to certain users based on availability of alternative trails?
- Are there established rules that explain which users have the right-of-way?
- Education
- Signs
- One way trails
- Periodic closures

The most obvious solution to user conflict is the creation of rules or regulations developed with public input, and then posting of these rules along the trail. Well-designed rules help keep trails safe and improve users' experiences. From a positive standpoint, multi-use trail conflict is often a symptom of a well-used trail that is in high demand. This may also be an indication that more trails are needed in the area to accommodate the number of users and user types rather than limiting the types of users.

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Education and courtesy are often the best solutions to multi-user conflict. Understanding user rights-of-way, user etiquette, the needs and issues of each trail user group and the rules of the trail are important components for a compatible multi-use experience.

Trail Ethics Key to Maintaining Trail Use Privileges

Trails are often thought of as harmless paths through the woods. But many of the areas where trails are planned are fragile environments that are sensitive to even minimal human intrusion. Leave No Trace Outdoor Ethics and Skills is a program developed by the National Outdoor Leadership School to teach practical conservation techniques designed to minimize impact. Principles developed through the Leave No Trace education program are designed to make trail users more environmentally conscious and responsible when they use trails. The benefit is a more enjoyable trail experience for everyone and gained respect for public land management agencies that make these trails possible.

Leave No Trace Principles:

Plan Ahead and Prepare
Travel and Camp on Durable Surfaces
Dispose of Waste Properly
Leave What You Find
Minimize Campfire Impacts
Respect Wildlife
Be Considerate of Other Visitors

It is important that every trail user be a good steward of the land and respects the privilege of enjoying what nature has to offer.

Rail-to-Trails

Rail-trails are trails along currently unused railroad corridors. They are usually accessible to a variety of user types and skill levels because of their gentle grades. Rail-trails are commonly used by walkers, joggers, hikers and cyclists. Depending on the type of trail surface, equestrian and motorized trail users may also enjoy rail-trail corridors. Rail-trails can be found in urban, suburban and rural areas. Around the country it is not uncommon to find rail-trails of over 100 miles in length connecting a variety of resources, communities and people.

Abandoned rail corridors can either be purchased in fee simple from a railroad company or authority, if that entity owns clear title to the property, or they can be banked by either a public or private entity for future transportation uses. Rail banking is authorized by both state and federal statute allowing state and local entities to protect established corridors for future transportation use. In the interim, the corridor can be used for recreation and alternative transportation purposes as a rail-trail without waiving future rights as a train transportation corridor.

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In Tennessee, few rail-trails exist and rail banking has never been used. Compared to our neighboring states, Tennessee has done little to preserve our rail corridors for recreation and transportation use or for future rail use. In the 1800 s and early 1900's when railroads were established in Tennessee, property was acquired using various means. In some cases, the railroad company purchased the land and all the rights from a property owner in fee simple. Other times the company only purchased the right or easement to *use* the corridor specifically for the railroad. In the latter case, when the railroad corridor is abandoned, the rights to that property typically revert back to the original landowner or their descendents. Rail-banking allows government entities to maintain transportation rights to the corridor while allowing an interim recreation and transportation use.

Rail-trail projects require significant research and effort to fully understand property ownership issues. The smooth, level grade of railroad corridors often makes conversion to trails efficient and cost effective. The fact that the corridor is already established and often solely owned by the railroad company provides a quick means to acquire a long trail corridor that otherwise would not be possible.

Problems with rail-trails arise with the concern over adjacent landowner rights. Some railroad property deeds are unclear, and in some cases the deed records are no longer available to determine which means of acquisition was used by the railroad company. Other times rail corridors are acquired through both easement and fee simple acquisition which complicates a community's ability to purchase the entire linear corridor. In any case, it is important to fully understand the legal rights of the landowner.

Rail-trails can provide a unique opportunity for multiple use trails that meander along some of Tennessee's most scenic routes. Because they often cover long distances and provide suitable terrain for diverse ability levels and interests, opportunities to attract tourists are strong. In Virginia, just northeast of Bristol, the Virginia Creeper Trail, a converted railroad corridor, is one of the most popular trails in the country, attracting thousands of visitors each year. Studies completed by the National Park Service and the Rails-to-Trails Conservancy have shown rail-trail projects to have significant positive impacts on local and regional economies.

Rails-with-Trails

The *Rails-with-Trails* concept is new to Tennessee and is being considered by several communities. Typically, a rail-with-trail is a trail along an active or semi-active railroad corridor with the trail utilizing a portion of the railroad right-of-way. Most railroads control a minimum 100 foot corridor with the railroad tracks positioned in the center of that corridor.

Rails-with-trails require special considerations for safety and liability and are probably not feasible along most high-speed rail lines. In many cases, railroad companies will not allow shared use of the railroad corridor because of concerns about liability, especially in areas where a high volume of rail traffic exists. In other cases,

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particularly when short-lines or government-owned railroad authorities exist, rail-with-trail opportunities may be negotiable depending on the level of liability the community is willing to incur and the installation of special safety provisions to keep trail users a safe distance from the train tracks.

In highly urban areas, rails-with-trails may also be considered for alternative transportation in combination with light passenger rail systems. In San Diego, California, separate bicycle and pedestrian paths share a corridor with local light rail passenger trains and long-distance AMTRACK carriers, safely divided by fencing and vegetated buffer zones and specially designed crossing systems.

Cookeville Rail-with-Trail

As the City of Cookeville searched for a pilot project to launch its greenway system, the most obvious and feasible route was quickly identified as a rail corridor through the heart of the city. But what was challenging to members of the local greenways committee was the fact that the railroad corridor was still in active rail use and its use was expected to continue long into the future. Instead of looking elsewhere, local greenway enthusiasts contacted the owner, Nashville and Eastern Railroad, about the possibility of using a portion of the railroad right-of-way for recreational use and an agreement was reached to share the corridor.

This rail-with-trail will be the first known jointly used trail/railroad venture in Tennessee. The proposed trail will serve as both a recreation trail for bicyclists and walkers, and provide an alternate transportation route connecting historic downtown with Tennessee Tech University and a large residential area. From the historic downtown Cookeville Depot Museum to Tennessee Tech University, the trail will run parallel to the existing railway tracks.

The trail will be an asphalt path ten feet wide in most places. For safety, the lease with the railroad requires the city to install dense landscaping and/or fencing that is not obtrusive, but marks the boundary between the railroad tracks and the trail.

Construction of the first mile of trail is expected to begin in 1999. Ultimately, the rail-with-trail will be extended to the Cane Creek Park's new Sportsplex on the west side of Cookeville. Cookeville Regional Medical Center is near the trail and expressed strong interest in the trail because of its potential for rehabilitation of patients.⁹

The Benefits of Greenways and Trails:

Greenways and trails offer unparalleled benefits to Tennessee. It is rare to find an initiative that balances both environmental protection and economic growth. No other conservation initiative provides so many ecological, economic and quality of life benefits to the communities that create them. The benefits of greenways and trails include:

⁹ Brad Chambers, Cookeville Leisure Services Department, Cookeville, Tennessee

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Scenic Quality —

Greenways can enhance and preserve the scenic and aesthetic quality of our environment, protecting viewsheds, significant natural features, ridgelines, and green open space that is increasingly rare in our growing communities.

Growth Management —

Greenways can provide important growth management benefits. Areas of protected lands around and through communities can help shape urban form and mitigate urban sprawl. Historically greenbelts, also known as greenways, have been used to delineate between urban and rural land uses. Greenways can soften the landscape and focus revitalization efforts on blighted urban areas.

Outdoor Recreation —

Greenways can provide close-to-home outdoor recreation that is convenient, affordable to all citizens, and accessible to persons of all ages and abilities. Greenways and trails help promote healthier communities and healthy lifestyles.

Convenient Access —

Greenways provide access to more people than traditional parks because of their linear shape. Greenways and trails connect neighborhoods to public resources such as parks, schools, shopping areas and businesses.

Water Quality —

Greenways can improve water quality and lessen the impact of flooding by filtering surface water runoff, preventing erosion, and absorbing water during heavy rains. Greenways also create a buffer between development and waterways. Properly designed trails can increase visibility of waterways to area residents, thus increasing awareness of water quality issues.

Air Quality and Forests —

Greenways can enhance and protect forested areas that filter air pollutants and improve air quality. Forests also provide food and habitat for wildlife. In urban areas where automobile congestion increases air pollution, greenways can play a key role in reaching air pollution compliance.

Wildlife Habitat —

Greenways can improve wildlife habitat by providing migration corridors that allow wildlife populations to move from one natural area to another. Greenways can also provide temporary and permanent habitat for species that otherwise may not be found in urban areas, including native birds, amphibians, mammals and aquatic species.

Alternative Transportation —

Greenways and trails can serve as alternative transportation corridors, alleviating congestion on roads and highways, minimizing air pollution, and connecting people, communities and the countryside.

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Environmental Education —

Greenways serve as outdoor classrooms and living laboratories where students can learn about native plants, animal species and ecological processes. Greenways also provide opportunities to teach students about historic, archaeological and cultural resources.

ECONOMIC BENEFITS OF GREENWAYS & TRAILS -

Real Property Values — Many studies demonstrate that parks, greenways and trails increase nearby property values. In turn, increased property values can increase local tax revenues and help offset greenway acquisition costs. In areas where trails are constructed near new residential developments, properties along the greenway tend to be sold first and at higher values.

Expenditures by Residents — Spending by local residents on greenway and trail related activities helps support recreation oriented businesses and employment, as well as other businesses which are patronized by greenways and trail users.

Commercial Uses — Greenways and trails often provide business opportunities, locations and resources for commercial activities such as recreation equipment rentals and sales and other related businesses.

Stimulate Reinvestment in Once Blighted Areas— Greenways and trails often rejuvenate formerly blighted or neglected areas. Many communities have used greenway initiatives to spark waterfront developments, the rebirth of downtown business areas and revitalization of neighborhoods. Greenways and trails can reduce crime rates in once blighted areas by increasing visibility, relocating businesses and increasing visitors to the area.

Chattanooga Creates Safewalk

Chattanooga is introducing greenways to low-income neighborhoods to improve quality of life and reduce crime. Construction is underway for the Alton Park Safewalk, connecting the St. Elmo business district with the McCallie Homes in Alton Park. To be completed in late 1999, this is the first of three safewalk sections planned for the Alton Park area. Similar to a greenway that passes through a natural area, a safewalk passes through an urban area to provide residents with a safe, well-lit, landscaped pedestrian and bicycle route connecting homes, schools, recreation and shopping. Funding is being sought through the Community Development Block Grant Program.

Tourism — Greenways and trails are often major tourist attractions that generate expenditures on lodging, food and recreation oriented services. Tourists, when visiting a community or vacation destination, typically enjoy walking and experiencing the outdoors. Greenways and trails help improve the overall appeal of a community to perspective tourist and new residents.

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Agency Expenditures — The agency responsible for managing a river, trail or greenway can help support local businesses by purchasing supplies and services. Jobs created by the managing agency may also help increase local employment opportunities.

Corporate Relocation — Evidence shows that the quality of life of a community is an increasingly important factor in corporate relocation decisions. Greenways are often cited as important contributors to quality of life.

Public Cost Reduction — The conservation of rivers, trails and greenways can help local governments and other public agencies reduce costs resulting from flooding and other natural hazards.

Intrinsic Value — While greenways have many economic benefits it is important to remember the intrinsic environmental and recreation value of preserving rivers, trail and other open space corridors — a value that you cannot put a price tag on.¹⁰

Maryville Greenway Helps Recruit Ruby Tuesday's Headquarters

Maryville is widely known throughout Tennessee for having the first community greenway dating back to the 1970's. This foresight and commitment to quality of life in Maryville is paying off, not only with a comprehensive greenways system that reaches neighborhoods, schools and parks, but also financially. Because of Maryville's greenway system, the city is attracting new businesses to revitalize downtown.

Ruby Tuesday Inc. moved its national headquarters from Mobile, Alabama to the Knoxville area for several reasons, but the specific site was chosen in downtown Maryville primarily due to its location on the beautiful Greenbelt and trail system. -- Sandy Beal, Chairman & CEO, Ruby Tuesday, Inc.

Ruby Tuesday's uses the community greenway system as an amenity for new employees coming to Maryville for training. These new employees are provided a bicycle when they arrive and can travel between the corporate offices, lodging, restaurants, and training facilities along the trail.

Maryville would like to continue its downtown revitalization by encouraging other corporate, commercial and residential development in the city. The community's greenway network offers an attractive enticement to other businesses, just as it did to Ruby Tuesday's.¹¹

Trails = Tourism at LBL

¹⁰ Economic Benefits adapted from Economic Impacts of Protecting Rivers, Trails and Greenway Corridors, National Park Service, 1990.

¹¹ John Wilbanks, Maryville-Alcoa-Blount County Parks & Recreation Department

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Land Between the Lakes (LBL) is now being promoted as the Land of 10,000 Trails in a regional tourism plan recently released. The 170,000 acre National Recreation Area, created by Tennessee Valley Authority and now under the management of the U.S.D.A. Forest Service, is located between Kentucky Lake and Lake Barkley along the Tennessee River in both Kentucky and Tennessee. This locale provides unique opportunities for LBL to establish itself as the center of major trail development focused on generating tourism.

The vision is to enhance the quality of life and economic well-being of the region through tourism by building the region's outdoor recreation opportunities that will become a world class destination for visitors. The trails concept utilizes a combination of trail opportunities for all types of users on both land and water. Trails will not only be the destination, but the lifestyle of the visitors enjoying the greater LBL area while accessing restaurants, lodging, and key attractions. The idea is that trails will be the key to stimulating a struggling economy in this rural region.

CHAPTER 3 — Protecting our Natural & Cultural Resources

Greenway and linear corridor protection offers a flexible mechanism for conserving Tennessee's most important natural resources — waterways, wetlands, forests and extensive wildlife habitat. Greenways can also be used to preserve important cultural and historic sites. Since many of these sites are located along the state's river and stream corridors, preservation of these natural corridors can easily incorporate cultural and historic resource protection as well.

Because Tennessee is growing rapidly, it is vulnerable to uncontrolled urban and rural development that destroys resources important to the long-term economic vitality and environmental health of Tennessee. Greenway protection can be used to help preserve important local resources while re-directing growth toward more appropriate areas.

Threats to the natural environment make it more important than ever to preserve and protect our natural and cultural resources now while we still have the opportunity.

- Urban and suburban growth often pressures communities to develop the remaining areas of green undeveloped land.
- Destruction of habitat suitable for rare and endangered species continues to threaten the biodiversity of our state.
- The increasing price of real estate diminishes opportunities to acquire land for conservation at affordable prices.

Urban Greenways —

Developing greenways in urban areas can protect natural and cultural resources close to home, in the areas where development pressures are often the greatest. But the need to soften urban landscapes and provide passive recreation areas is growing and needs to be accommodated in both large and small communities throughout the state. Communities not only need facilities for active sports, but also areas for passive recreation to allow people to relax, walk, enjoy nature and escape the concrete and steel of the built environment.

Urban open space with trees and other vegetation helps control air pollution by filtering pollutants and providing a cooling effect in areas where paved surfaces radiate heat. The visual impact of greenways improves the aesthetic appeal of urban landscapes, offering opportunities to improve blighted urban waterfronts, downtown areas and neglected neighborhoods.

Urban greenways also help control the impact of concentrated development and urban activity to natural resources. Greenways that buffer waterways control runoff into streams and rivers of contaminated water from roadways, siltation from development and fertilizers commonly used on residential lawns.

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Urban greenways provide a home for urban wildlife. Many wildlife populations subsist in urban areas, but development pressures on their habitats threaten their existence. Protected greenways retain natural vegetation and aquatic habitats that offer sanctuary and food for birds, small animals, reptiles, amphibians and fish. This provides a unique opportunity for children and adults alike to learn about wildlife and plants close to home through environmental education.

In Tennessee, few communities have progressive zoning ordinances that protect urban open space for conservation. But as the benefits of conservation become more apparent and development pressures continue, communities are beginning to realize the importance of protecting open space and significant natural resources. In communities that struggle to maintain acceptable standards of water and air quality, greenways may be a proactive way to improve or meet state and federal guidelines.

Conserving our Rivers, Streams and Waterways -

In 1998, the Nature Conservancy prepared a report called *Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity*, examining the urgent need for the protection of our nation's water quality and aquatic species biodiversity. The report is a study of streams and rivers throughout the country, identifying the most imperiled waterways that impact the protection of threatened and endangered freshwater fish and mussel populations.¹²

This report highlights the necessity of local action and the creation of local partnerships to conserve freshwater species and local ecosystems. Greenways are a logical tool for implementing this study through the conservation and protection of riparian buffer zones and native habitat along these sensitive rivers.

Maury County Greenways: A partnership between The Conservation Fund and Maury County Government

Begun in May of 1997, the Maury County Greenways partnership has completed some innovative conservation projects in a pilot greenway corridor along the Duck River in Columbia. With funding from the Tennessee Wildlife Resources Agency and the Tennessee Environmental Endowment, Maury County Greenways purchased two tracts (8.5+ acres total) of property on the river adjacent to 5 acres of public lands at the Old Columbia Dam. The Tennessee Valley Authority also partnered with the greenway program to demonstrate bioengineering techniques as an alternative to rip-rap for stabilizing an eroding riverbank in the City of Columbia's Pillow Park, also in the pilot corridor a few blocks downstream.

¹² Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity, The Nature Conservancy, 1998.

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With matching funds from the Tennessee Environmental Endowment, R.E.I., and PowerBar's D.I.R.T. program, a grant from the National Fish and Wildlife Foundation (N.F.W.F.) is stimulating more activity to restore the Duck River and its tributaries by citizen volunteers. The N.F.W.F. grant focuses on stabilizing eroding stream and riverbanks and restoring riparian buffers. This dual focus will improve wildlife habitat along the banks, filter non-point pollution, and help protect and restore aquatic habitats. Volunteers have already contributed over 100 hours during an initial river clean-up, and more projects are in the planning stage with high school science and agriculture classes and two Eagle Scouts. Another project being considered would involve local garden clubs in the removal of non-native plants, replacing them with native grasses, wild flowers and trees.

The Maury County Greenways program is now working on greenway and trail projects in three communities and beginning a county-wide planning process. When complete, the plan is expected to identify potential greenway and trail projects and set priorities based on extensive public input from citizens throughout Maury County. The plan may also identify other opportunities for conserving and interpreting unique features throughout the county.¹³

Few people realize that the United States has a more diverse collection of freshwater species than any other place in the world. Freshwater species are more at risk of extinction than land-based plants and animals. Scientists predict that the current rate of extinction of freshwater species is 1,000 times greater than normal natural rates.

Most startling is that the greatest concentration of at-risk freshwater species in the world is in the Southeast United States, with Tennessee holding the highest number of freshwater species at risk. The Tennessee-Cumberland River basin is one of two watersheds identified in the southeast that contain 35 percent of all vulnerable threatened and endangered aquatic freshwater fish and mussel species. Of 324 small watershed areas in the United States which were found by the Nature Conservancy to be critical to preserving the world's freshwater biodiversity, 27 are in Tennessee. Three of these — the watersheds of the upper Clinch, the upper Powell, and the upper Duck Rivers — have more at-risk species of fish and mussels than any other such areas in the U.S. All 27 areas in Tennessee rank in the top 25 percent in terms of their number of at-risk species.

Table 3.1 — Tennessee Watershed Hot Spots with 10 or More At-Risk Freshwater Fish and Mussel Species (Source: *The Nature Conservancy, 1998*)

Small Watershed Area	Number of Fish & Mussel Species At-Risk	Number with U.S. Endangered Species Act Status
Upper Clinch*	48	21
Upper Duck*	33	6
Powell*	30	13
Upper Elk*	27	9

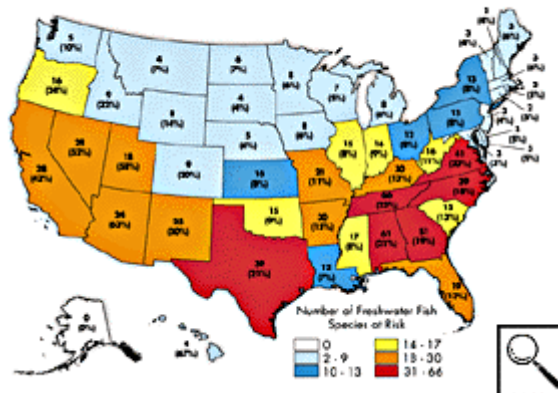
¹³ Hugh Bullock, Director, Maury County Greenways

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South Fork Cumberland*	22	7
Wheeler Lake*	22	9
Conasauga*	21	10
Holston	20	12
Nolichucky	19	6
South Fork Holston	19	4
Lower Little Tennessee	19	7
Watts Bar Lake	19	8
Upper Cumberland-Lake Cumberland	18	5
North Fork Holston	18	4
Lower Tennessee-Beech	16	8
Pickwick Lake	15	4
Lower Duck	15	6
Lower Cumberland-Old Hickory	15	10
Barren	15	3
Hiwassee	15	2
Buffalo	14	4
Lower Clinch	14	11
Middle Tennessee-Chickamauga	14	6
Caney Fork	13	5
Collins	11	4
Emory	11	4
Upper Cumberland-Cordell Hull	11	3
Lower French Broad	11	4
Red	10	1

Special Note: *Tennessee is home to 7 of the top 10 at-risk rivers listed nationwide.

State Distribution of At-Risk Freshwater Fishes



Freshwater Species and their habitats are threatened by:

Non-point source pollution — Runoff from streets, failed septic systems, fertilized lawns, erosion from croplands, construction projects and timbering operations all contribute to non-point source pollution. Chemical and nutrient contaminants,

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along with sedimentation from loose soil, flow into our streams after rain and snow and degrade water quality.

Non-native species — Native aquatic plant and animal species in streams and along riverbanks are threatened by the introduction of non-native, invasive species that do not have native predators or other resistance to their spread. These exotic species are not compatible with the local ecosystem and limit food and habitat for native terrestrial and aquatic species or actually prey upon them.

Dams and their associated operations — In Tennessee, most of the larger river systems have been impounded or altered by dams and stream channelizations. Dams have had a significant impact on our regions' aquatic species through the adjustment of water flow, temperature, and nutrient content. Dams also limit the migration of aquatic species.

The *Tennessee Rivers Assessment*, prepared by the Tennessee Department of Environment and Conservation's Division of Natural Heritage in 1998 in partnership with the National Park Service, is a comprehensive assessment of the state's rivers system. The assessment provides an overview of watersheds and rivers in Tennessee and includes information about river-related natural and scenic qualities, recreational boating, recreational fishing and water quality.

There are over 60,000 stream miles and some 540,000 acres of lakes in Tennessee. At present, approximately 72 percent of the state's stream miles and 78 percent of the lake acres meet or exceed water quality standards.

Tennessee's Water Quality Control Board designates the beneficial uses of streams and lakes. The seven use classifications for Tennessee waters are: aquatic life, recreation, drinking water supply, irrigation, industrial water supply, navigation, and livestock watering and wildlife uses.

All major Tennessee rivers, streams and lakes have been assessed and placed into one of three categories:

- ***Fully Supporting*** — The quality of water is as good or better than needed to support its designated uses. Most streams in Tennessee fall into this category.
- ***Partially Supporting*** — These water bodies do not fully meet all designated uses.
- ***Not Supporting*** — These water bodies do not meet any water quality criteria. TDEC is determining all sources of pollution for these streams and how they can be managed to improve water quality.

<p>We have made great improvements in protecting our waters, said Commissioner Milton H. Hamilton, Jr., of the Tennessee Department of Environment and Conservation (TDEC). By working together, we can make Tennessee a model of water quality protection in the Southeast and across the country.</p>

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The watershed approach provides a unified way to resolve water quality problems and to better coordinate action with the public and government. The U.S. Environmental Protection Agency (EPA) identifies Tennessee as one of the first states in the nation to implement the progressive watershed management approach.

TDEC recently formulated a four-year strategic plan to protect and enhance Tennessee's rivers, lakes, wetlands and ground water. Details about the plan are available on the TDEC web site, <http://www.state.tn.us/environment/tdecplan.htm>. The water assessment report, The Waters of Tennessee: Preserving Water Quality in Tennessee's Streams and Lakes, and other resources on Tennessee water quality and wetlands can also be found on the department's website, at <http://www.state.tn.us/environment/water.php>.

The protection of riparian (streamside) buffer zones with greenway corridors is an important tool that communities can use to protect water quality along the state's waterways. These vegetated riparian areas provide important buffers between development and water bodies that both filter harmful chemicals and nutrients from runoff as well as provide important habitat for wildlife and aquatic species.

Blueways

The University of Tennessee's Water Resources Research Center along with several cooperating organizations and local governments is seeking to initiate a network of regional blueways that will promote and facilitate the use of local waterways by canoers and kayakers. While canoe trails such as Boundary Waters in Minnesota and Ten Thousand Islands in Everglades National Park exist throughout North America, none offer the accessibility and variety afforded by the upper Tennessee River and its tributaries. From whitewater streams of the Smoky Mountains to the slow meandering rivers and reservoirs of the Ridge and Valley physiographic province, the waterways of East Tennessee present a unique opportunity for the development of a regional network of linked canoe trails (blueways) that are easily accessible by paddlers of all interests and abilities.

What is a Blueway? Similar to greenways, blueways are designated, marked trails that follow the course of streams and rivers facilitating transportation and recreation. The purpose of a regional blueways network is to promote recreational use, natural resource stewardship, and eco-tourism by officially designating specific waterways as blueways. A blueway should consist of a variety of river access sites. Each blueway will be officially designated with signage indicating the route and a map indicating the route, facilities and points of interest.¹⁴

Wetlands Conservation -

¹⁴ Jeff Duncan, University of Tennessee Water Resources Research Center (Knoxville).

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Wetlands are transition zones controlled by landscape and hydrology, and they typically contain attributes of both aquatic and upland environments. Some, such as deep swamps, bogs and marshes are typically recognized as wetlands by the prominence of water and distinct wetland plants. Others, such as bottomland hardwood forests that lack permanent standing water, and submerged aquatic beds that appear to be completely aquatic, are less recognizable.

Only recently have wetlands been recognized as valuable natural resources, that if maintained and properly managed, provide important benefits to the public and the environment. According to the *Tennessee Wetlands Conservation Strategy (1998)* there are five primary functions associated with Tennessee wetlands:

1. *Water Quality Enhancement* — wetlands enhance the physical and chemical condition of water through sediment and toxic substance retention and nutrient removal/transformation
2. *Flood Impact Mitigation* — wetlands reduce flood peaks by temporarily storing excess surface waters during peak storm runoff flows and also reduce the potential for erosion of shorelines and floodplain areas during flooding.
3. *Biological Productivity* — Wetlands provide habitat and breeding areas for aquatic species, semi-aquatic species, migratory and resident terrestrial species such as mammals, birds and reptiles that depend on water or wet conditions, habitat for plants that require periodic wet soil conditions, and support the overall food chain.
4. *Ground Water Influence* — Wetlands significantly influence shallow water aquifers within their vicinity by recharging ground water supplies, releasing water to adjacent streams and water bodies during dry periods, and improving the quality of groundwater resources by serving to treat contaminants that might otherwise contaminate groundwater resources.
5. *Direct Human Benefits* — Wetlands provide opportunities for recreation, education, and timber and agriculture production in sustainable wetland environments.

Tennessee has approximately 2 million acres of land that are wetlands or are capable of supporting wetlands. However, many of these acres have previously been converted to non-wetland uses and are no longer considered wetlands. Throughout the state, approximately 80% of hydric soils occur in the western portion of the state, 16% occur in middle Tennessee, and only 4% occur in east Tennessee. In a 1956 study, Tennessee ranked 6th in the country in both quantity and high quality of wetland habitat.

(map of Tennessee wetland inventory)

Development and farming throughout Tennessee have dramatically decreased the amount of wetland acreage in the state. In the past, losses of wetlands were attributed primarily to agricultural conversion, drainage, channelization and sedimentation. The primary threats to wetlands in and near urban areas are land development, construction and associated road building. As an alternative to development, wetlands can become a community asset if they are incorporated into an urban greenbelt plan, park or wildlife corridor and dedicated to low-impact recreation use and/or storm water management.

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While the exact acreage of Tennessee's wetlands is unknown, it is estimated that over half of wetlands (59%) that existed 200 years ago are now lost. The federal Clean Water Act has mandated a no net loss policy that is greatly reducing the loss of wetlands nationwide, as well as attempting to re-establish wetlands in areas that will enhance water quality and wildlife habitat. Mitigation of wetlands is now required where negative impacts to wetlands cannot be avoided. Greenway conservation can play a significant role in reversing the trend established over the past 200 years.¹⁵

Greenways and trails can play an important role in achieving the goals established in the *Tennessee Wetland Conservation Strategy* to:

- Acquire and protect wetland areas.
- Create more urban riparian areas, wetland greenbelts and wildlife corridors.
- Establish or work with existing wetland banking programs to focus wetland acquisition efforts.
- Provide opportunities to educate the public about the importance of wetlands through environmental education.

The Tennessee Wildlife Resources Agency, in cooperation with TDEC and the Department of Agriculture, is working throughout Tennessee to identify and acquire key wetland properties for protection through the State Wetland Acquisition Fund. Between 1986 and 1997, 40,696 acres of wetlands have been protected through this fund.

In 1995, Tennessee developed its first wetland mitigation banking program. As the name implies, wetland banking is a system set up to allow for a controlled process that encourages larger, more productive wetlands to be established by developers, under the guidance of various government agencies and non-profit interests, when wetland impacts are not avoidable. Mitigation banking provides an important opportunity to make front-end decisions on siting, development and management of wetlands as opposed to the typically more reactive mode of regulatory programs. As a result of this new program, the Tennessee Department of Transportation utilizes wetland banking to buy and restore wetlands to mitigate unavoidable impacts of road construction on existing wetlands.

Through an established urban greenway program, communities such as Shelby County are establishing wetland banking programs to direct the placement of wetland mitigation and provide funding for acquisition along riparian river corridors that will both enhance wetland habitat and provide land for the establishment of a comprehensive greenway system.

¹⁵ *Tennessee Wetlands Conservation Strategy*, October 1998, Tennessee Department of Environment & Conservation.

Wetland Banking in Shelby County

Mayor Jim Rout's vision for Shelby County is to establish comprehensive linear county parks that span Shelby County from its eastern-most border at the Fayette County line to its western reaches at the Mississippi River. These linear parks will follow waterways and include biking, hiking and equestrian trails.

One of the methods used to achieve this goal is wetland banking. The concept of wetland banking is not new to Tennessee, but this will mark the first time that it has been used to achieve benefits for both the local community and the environment. In Shelby County, planners and conservationists are creating a wetland banking program, under the guidance of the Corps of Engineers and TDEC Water Pollution Control to correspond with a greenway plan currently under development.

The greenway network is focused on the three imperiled waterways that flow through the county: Nonconnah Creek, and the Loosahatchie and Wolf Rivers. This strategy will help the city acquire and build its greenway system by targeting suitable parcels of land for wetland mitigation within the greenway plan. Companies that need mitigation sites will purchase wetland credits on an acre-by-acre basis. Funds from the bank will be used to purchase parcels along the planned greenway corridors, create new wetlands, and develop a greenway. It's a win-win-win situation for industry, the county and the environment.¹⁶

The City of Jackson, Tennessee is enjoying the multiple benefits of wetlands protection through the establishment of a greenbelt throughout the city that is largely comprised of wetlands. And the Town of Farragut recently constructed a wetland area in the center of a large park to resolve drainage problems and provide a passive recreation experience to its users along a boardwalk system. In Nashville, Shelby Bottoms Greenway was established to mitigate wetland encroachment during the expansion of the Opryland Hotel. Metropolitan Nashville worked with Gaylord Entertainment to direct acquisition of the wetland mitigation along the Cumberland River adjacent to an existing city park. A system of mulched and paved trails along the river allows users to enjoy scenic views as well as learn more about the ecology of wetlands and their importance in the heart of downtown Nashville.

Jackson Combines Greenways with Wetland Protection

The citizens of Jackson and Madison County discovered that wetlands are natural classrooms, providing a place to learn about the outdoors in their own backyard. Thanks to their Greenbelt Plan, the city of Jackson is preparing to buy 4,000 acres of wooded wetlands along the South Fork of the Forked Deer River.

Historically, greenbelts were established in England as a growth boundary between urban settlements and agricultural areas. In today's society, greenbelts are

¹⁶ Ted Fox, Shelby County Public Works Director, Shelby County, Tennessee.

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synonymous with greenways, unique natural corridors in urban settings that provide habitat to wildlife and recreation for local residents. The majority of the Jackson Greenbelt Area is wetland, with a diverse collection of plant species including bald cypress, sweet gum, pin oak, and hickory. This beautiful bottomland forest remains wet year-round, providing attractive habitat for a variety of wildlife and human access via boardwalk trails.

The Tennessee Wetlands Strategy is available online at www.state.tn.us/environment/nh/wetlands/

Protecting Tennessee's Forests —

Tennessee is fortunate to have a healthy supply of rolling green hills and forests. From the Appalachian Mountains to the Cumberland Plateau to the cypress groves in the bottomlands of Mississippi Valley, our Tennessee countryside offers a variety of forest opportunities.

Protecting the state's forest resources is important to the economy — forests provide a significant economic impact through the generation of forest products. Forests also provide a notable opportunity for wildlife habitat, recreation and scenic beauty in Tennessee. Forests cover approximately 13 million acres, or about half of Tennessee. The most heavily forested regions are the eastern mountains, the Cumberland Plateau, and the western highlands on either side of the Tennessee River.¹⁷

Urban and suburban growth is increasingly putting pressure on the protection of forest land in Tennessee. To help off-set development demand and help states protect private forest land resources, the U.S. Forest Service has created a program called Forest Legacy to support preservation efforts throughout the country.

The Forest Legacy Program (FLP) supports state efforts to protect environmentally sensitive, privately owned forest lands that are threatened with conversion to non-forest uses -- such as residential subdivisions or commercial development. To help maintain the integrity and traditional uses of private forest lands, the FLP promotes the use of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values. FLP is an entirely voluntary program. Priority is given to lands that can be effectively protected and managed, and which have important scenic, cultural and recreational resources, fish and wildlife habitat, riparian areas, and other ecological values.

To date, funding has only been awarded to a few model areas of the country outside of Tennessee. In 1999, the Tennessee Department of Agriculture, Division of Forestry is submitting a proposal to the U.S. Forest Service requesting Federal funding

¹⁷ *Behind the Wall of Green*, Tennessee Department of Agriculture, Division of Forestry.

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assistance for Tennessee's Forest Legacy Program. President Clinton has also submitted a Fiscal Year 2000 budget request that would increase funding for the Forest Legacy Program six-fold over previous funding levels if funded by Congress. Tennessee has prioritized areas of the state that are most in need of protection for the Forest Legacy Program that compliment efforts of the Greenways and Trails Initiative.

In many areas of the state, forests present an untapped opportunity for protecting valuable ecological and recreation resources, yet many forests are being stressed by development pressures, increasing land values and the threat of wood chipping mills. Protection of this valuable natural resource is important to maintain the natural character of Tennessee. Greenways can protect forest resources, maintain scenic vistas and wildlife corridors, and expand opportunities for recreation, while allowing sustainable timber harvest practices vital to the state's economy.

Cultural Resource Protection —

In Tennessee, development pressures not only impact natural resources, but also threaten the state's historic treasures. Tennessee is rich in historic and archaeological sites. Native Americans lived in Tennessee thousands of years before European settlers came to the region. Virtually every part of the state was home to large populations of Woodland and Mississippian Indians. The Trail of Tears crosses Tennessee, marking the devastating march westward of Cherokee Indians and other nations who were forced from their homelands.

Tennessee's birth as a state and the westward movement of European settlers is also an integral part of Tennessee's history. Many old roads, river fords and early home sites still exist throughout Tennessee, with numerous private and publicly owned sites listed on the National Register of Historic Places. According to the Tennessee Historical Commission, there are approximately 1,700 listings of historic areas within Tennessee, with over 35,000 structures or historical points of interest within these areas that have qualified for inclusion in the National Register.

Tennessee's rich history also includes many battles and army marches throughout Tennessee during the American Revolution, the War of 1812, the Creek War, and the Civil War. In fact, only Virginia exceeded Tennessee's number of major Civil War battles. Battlefield sites throughout Tennessee are largely unprotected and are vulnerable to development pressures. The Tennessee Historical Commission works closely with the National Park Service and communities to help protect key historic sites, but the protection needs greatly exceed current funding resources.

It is important to carefully plan greenways and trails when they threaten to intrude upon areas with historic and archaeological resources. Archaeological sites often attract pot hunters and vandals who can forever degrade or damage them. Since trail construction can damage archaeological sites, trail planners should consult with appropriate historic and archaeological authorities prior to construction to avoid potential impacts.

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Greenways offer an opportunity to protect resources and provide an interpretive education experience in historic areas. In historic communities, greenways and trails can provide significant opportunities for tourism development. Historic sites are protected in Tennessee when people become aware of the resources and develop an appreciation for their the historic value. Greenways can help Tennesseans preserve and understand the state's history by linking and enhancing historic buildings, battlefield sites, cemeteries, bridges and many other historic landmarks.

Tennessee Historical Commission Preserving Civil War Heritage

The Tennessee Historical Commission has initiated a Statewide Civil War Preservation Plan to counter the growing loss of our state's Civil War sites. Nearly 97 percent of Tennessee's historical landmarks are located on private property, and there is little control over development, vandalism and neglect. While the state has limited resources and cannot afford to purchase every piece of land that has a war history, preservationists are promoting planning and landowner education as they best practical method of control.

Communities such as Hartsville have discovered that small investments in low-tech efforts, such as the 20-mile driving tour of the Battle of Hartsville, aid in promoting local tourism. The Town of Spring Hill and Maury County recently partnered with Saturn Corporation and the Tennessee Civil War Trust to protect and restore a significant Civil War battlefield and adjacent mansion known as the Rippavilla Plantation, which now serves as a visitor's center along the Tennessee Antebellum Trail.

IDENTIFYING GREENWAY CORRIDORS

Ecological Corridors

Preserving large natural areas and ecologically significant corridors is critical to the preservation of Tennessee's natural character. Some ecological corridors might be chosen by focusing on the areas of greatest biodiversity in each of Tennessee's ten physiographic provinces. Three of these provinces — The Blue Ridge (Southern Appalachians), the Southern Coastal Plain (Western Tennessee River Valley), and the Mississippi Alluvial Plain stand out for their biological richness. They are narrow enough and already include enough publicly owned conservation lands to be feasible as large greenway corridors.

[insert map showing physiographic provinces]

The state's rivers and streams and their associated riparian habitats are among its richest natural corridors. The Tennessee and Mississippi River valleys are nationally important flyways for migrating waterfowl and breeding grounds for numerous birds. These river valleys also harbor the greatest diversity of freshwater aquatic species and the

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greatest number of species at risk of any of the 49 freshwater regions in the continental United States.

In 1995, the Tennessee Wildlife Resources Agency and the Conservation Fund gathered data from major land management and conservation agencies and organizations across the state to produce a Tennessee Greenways Demonstration Model. This data was used to create Geographic Information Systems (GIS) maps. The first of these maps pinpoints areas that meet one of the following criteria determined by the TWRA as meaningful to the identification of potential ecological corridors:

- Presence of rare species
- Cave entrances
- Within 5 miles of state and federally owned property
- Reptilian richness greater than 48 species
- Mammalian richness greater than 50 species
- Amphibian richness greater than 38 species
- Avian richness greater than 69 species
- Wetlands
- Within 1/2 mile of a stream reach with natural and scenic qualities of statewide or greater significance

[insert Map of Demonstration Model]

The second map shows only those areas that meet two or more of the above criteria. The primary corridors identified by the maps are:

1. **The Southern Appalachian Mountains** (Blue Ridge) of east Tennessee, the highest elevations in the eastern United States, are largely in federal ownership including the Cherokee National Forest and the Great Smoky Mountains National Park.
2. **The Cumberland Mountains and Plateau** divides east and middle Tennessee and contains significant federal and state holdings, including Big South Fork National River and Recreation Area and Obed National Wild and Scenic River, the South Cumberland Recreation Area, and numerous other state and federal parks, natural areas, forests and wildlife preserves including large tracts of private timberland.
3. **The Kentucky Lake/Tennessee River Valley** (Southern Coastal Plain) separates middle and west Tennessee, a region of farming and forestry, and includes two national wildlife refuges, four state parks, two national military parks and Land Between the Lakes National Recreation Area.
4. **The Mississippi River and alluvial plains** is characterized by its bottomland hardwoods and wetlands and is home to Reelfoot Lake State Park, Meeman-Shelby Forest, Chickasaw National Wildlife Refuge and the Mississippi River.

Also indicated as corridors meeting multiple criteria are the following small watershed areas:

- Watauga, Nolichucky, and Little Tennessee/Tellico Rivers
- Upper Holston River
- Clinch and Powell Rivers
- Hiwassee/Ocoee, and Conasauga Rivers

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- Big South Fork of the Cumberland River
- Obed/Emory Rivers
- Whites Creek (in Cumberland, Rhea and Roane Counties)
- Piney River (Rhea County)
- Richland Creek (Rhea County)
- North Chickamauga Creek
- Tennessee River Gorge
- Battle Creek/Sweeton Creek/ Big Fierly Gizzard Creek
- Upper Cumberland River
- Roaring River/Spring Creek/Flat Creek
- Cordell Hull Lake
- Caney Fork River/ Collins River/ Cane Creek/ Bee Creek
- Stones River/ J. Percy Priest Lake
- Lower Harpeth River/ Turnbull Creek
- Red River
- Lower Cumberland River
- Duck River/ Buffalo River
- Elk River
- Upper Wolf River
- Upper Hatchie River
- Upper Forked Deer River
- Upper Obion River

A comprehensive inventory of greenway and natural resource corridor opportunities is currently being planned in partnership with the Tennessee Wildlife Resources Agency, the Department of Environment and Conservation and the Tennessee Parks and Greenways Foundation that will show significant wildlife corridors and key areas in need of natural resource protection.

Scenic, Historical and Recreation Corridors

Tennessee's four primary ecological corridors are also exceptionally scenic and rich in historic sites and outdoor recreation opportunities. Many other corridors may have less ecological value, but still offer outstanding scenery, cultural significance, or trail-related recreation. Such important corridors might include:

1. Tennessee's major rivers and their tributaries and impounded lakes
2. State Scenic Trails including the Appalachian National Scenic Trail (along with the Benton MacKaye Trail), the Overmountain Victory National Historic Trail, the Trail of the Lonesome Pine, the John Muir National Recreation Trail, the Trail of Tears National Historic Trail, the Cumberland Trail State Park, the Natchez Trace National Scenic Trail, and the Chickasaw Bluffs Trail. The Mississippi River Trail, a bike route, is also considered a significant state trail that is not currently designated as a State Scenic Trail.
3. State Scenic Parkways and Highways and routes of the B.R.A.T. (Bicycle Ride Across Tennessee).
4. Historic routes including Native American trails, longhunter s and explorer s traces, early settlers roads, routes of military campaigns, and historic railroad routes, including:
 - Boone's Trace
 - Catawba Trail
 - Great Indian Warpath
 - Avery Trace/Emory Road
 - Cumberland Trace/Walton Road
 - Unicoi Turnpike
 - Black Fox Trail/Trail of Tears
 - Sequatchie Trail
 - Chickamauga Path
 - Nickajack Trace

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- Kentucky-Alabama Road
- Great South Trail
- Cumberland and Great Lakes Trail
- Jackson's Military Road
- Natchez Trace
- Glover's Trace/West TN Chickasaw/ Bolivar-Memphis Trail
- Massac Trace

Conclusion

Greenways are an important component in conserving Tennessee's natural environment — including water, forests, wildlife resources and its cultural heritage. By combining urban trail development with the protection of natural and cultural resources, greenways can play an important role in helping the state achieve a sustainable future.

CHAPTER 4 - GREENWAY & TRAIL POLICY RECOMMENDATIONS

The Governor's Council on Greenways and Trails was charged with making recommendations to the Governor to help support the development of a statewide network of greenways and trails. The following policy recommendations evolved over the past year based on a variety of public input, discussions of the Governor's Council and meetings with state and federal agencies responsible for greenway and trail development and management. While some of these policy recommendations relate to the creation of new funding sources, most identify better ways to make use of existing resources.

Critical to the successful implementation of important policy recommendations is the establishment of a full-time Greenways and Trails Coordinator within the Tennessee Department of Environment and Conservation (TDEC), Recreation Resources Division, and the establishment of a full-time Bicycle/Pedestrian Coordinator within the Tennessee Department of Transportation (TDOT).

These policy recommendations were designed to address current deficiencies and resolve obstacles that have prevented Tennesseans from achieving a statewide system of greenways and trails. The recommendations have been organized into the following categories: Education, Funding, Planning, Development, Management, Design, Conservation and Community. A *Guiding Principle* defines the broad goals under each category with specific *Actions* identified that must be implemented to achieve the *Guiding Principle*.

The Governor's Council on Greenways and Trails recommends the following actions:

EDUCATION

One of the most effective actions that can be taken by the state to assure the future of Tennessee's greenways and trails is to provide education and technical assistance. Communities and other local organizations are the keys to establishing greenways and trails. In order for them to succeed, the state needs to establish a support structure providing them with guidance and resources to direct sustainable greenway and trail planning and development.

Federal funding programs through the Transportation Equity Act of the 21st Century (TEA-21) provide the necessary financial resources to the state with a minimum state match required to establish both a full-time Greenways and Trails Coordinator position within the TDEC-RRD, and a full-time Bicycle/Pedestrian Coordinator position within TDOT. In addition, limited education funds are available through these programs to support state-level greenways and trails education programs and initiatives.

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Guiding Principle — The State of Tennessee should employ qualified staff to coordinate the development of an information clearinghouse and provide technical assistance to communities, government agencies, private organizations, citizens and visitors to our state.

The Governor's Council Recommends These Actions —

- The Department of Environment & Conservation, Recreation Resources Division (TDEC-RRD), is encouraged to create a full-time Greenways & Trails Coordinator position responsible for:
 - 1) Coordinating the implementation of the Tennessee Greenways & Trails Plan.
 - 2) Staffing the Governor's Council on Greenways & Trails.
 - 3) Creating a database of current trail opportunities.
 - 4) Organizing education and technical assistance efforts for conservation greenways and recreation trails.
 - 5) Serving as the primary greenways and trails contact for the State of Tennessee.
- The Department of Transportation (TDOT) is encouraged to create a full-time Bicycle/Pedestrian Coordinator position responsible for:
 - 1) Being an advocate for bicyclists and pedestrians within the TDOT.
 - 2) Providing technical information to communities regarding bicycle and pedestrian design standards and safety information.
 - 3) Seeking the support of the TDOT Survey Design Office to facilitate implementation of bicycle/pedestrian access to state highways through the design and construction phases of development.
 - 4) Expanding appropriate designated Bike Routes throughout Tennessee.
 - 5) Seeking future expansion of bicycle/pedestrian responsibilities with larger staff in future.

Guiding Principle — The State of Tennessee, through a full-time Greenways & Trails Coordinator and full-time Bicycle Pedestrian Coordinator, will provide greater access to information about existing greenways and trails in a variety of formats to potential trail users and visitors to our state.

The Governor's Council Recommends These Actions —

- TDEC-RRD should work in partnership with TWRA and state trail organizations to map all existing greenways and trails using Global Positioning Systems (GPS) and maintaining trail information in Geographic Information Systems (GIS) format.
- TDEC-RRD should organize an information clearinghouse - information about how to access greenways and trails will be made available to users through written materials, maps and the development of a comprehensive website providing information on where to access greenways and trails for recreation. Information should be specific including ADA accessibility, length and surface of trail, difficulty level, and what types of trail users are permitted.
- TDEC, TDOT and the Department of Tourist Development should collaborate to publish a map of community, regional and statewide trail opportunities on Tennessee.

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- TDOT should consider development of special bicycle safety signage promoting Tennessee's bicycle friendly roadways and encouraging motorists to respect bicycle users. TDOT should consider development of a Bicycle Friendly Community Program to encourage communities to develop bicycle facilities. This program should provide special signage for designated communities.
- The Tennessee Development District Association and regional development districts should coordinate regional trail information brochures to promote the use of trails to residents and visitors.
- The Department of Tourist Development should promote greenways and trails to citizens and tourists by incorporating trail information in publications and distributing trail information at visitor's centers.
- TDEC-RRD should coordinate distribution of greenway and trail information and educational materials to statewide recreation retail stores (outfitters) and trail equipment dealerships.

Guiding Principle — *The State of Tennessee, through a full-time Greenways & Trails Coordinator, should establish an information clearinghouse providing technical information to communities, government agencies, trail organizations and citizens to aid in the development of local greenways and trails.*

The Governor's Council Recommends These Actions —

- TDEC-RRD should create and maintain a database of trails/greenways in Tennessee.
- TDEC-RRD should establish a comprehensive greenways and trails website to provide technical assistance and educational resources and linkages to other organizations and internet resources.
- TDEC-RRD should prepare and publish a quarterly greenways & trails newsletter.
- TDEC-RRD should prepare publications and fact sheets regarding current greenway and trail information needs and issues.
- TDEC-RRD should provide technical assistance to regional and statewide greenway & trail projects in Tennessee.
- TDEC-RRD should develop a greenways and trails how-to manual/resource guide for greenway and trail development.
- TDEC-RRD should organize a statewide Governor's Conference on Greenways & Trails for 2000/2001.
- TDEC-RRD should prepare information packets specialized for local Convention and Visitor s Bureaus, Chambers of Commerce and local Planning Commissions highlighting the environmental, social and economic benefits of greenways and trails.
- TDEC-RRD should organize and distribute information to the Tennessee Board of Realtors on conservation development practices that promote the incorporation of greenways and trails into commercial and residential real estate developments.
- TDEC-RRD should facilitate use of Recreation Trail Program educational funds to provide statewide educational materials and programs and support efforts of other government agencies that benefit the entire state.

Guiding Principle — *The Tennessee Greenways & Trails Initiative should expand and enhance education opportunities for users of greenways and trails*

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The Governor's Council Recommends These Actions —

- TDEC-RRD should promote Greenways and Trails through the Tennessee Looks Good to Me initiative.
- TDEC-RRD should coordinate distribution of Tread Lightly, Leave No Trace and other trail user etiquette guidelines to trail organizations, recreation retailers and dealers and local communities. The information should include education materials on motorized, non-motorized and multi-use trails, acceptable trail use behaviors, how to avoid conflicts and respect other trail users.
- The Governor's Council on Health and Physical Fitness (through the Department of Health) should organize and implement a statewide fitness promotional program focused on Tennessee's greenways and trails.
- TDEC-RRD should coordinate annual National Trails Day events to promote trail construction, maintenance and use. Coordinate with the Governor's Council on Health and Physical Fitness to hold annual trail events to promote health and fitness through trails.
- TDEC-RRD should coordinate with the Department of Education to develop a greenways and trails-oriented environmental education curriculum for Tennessee schools.
- State, federal and local organizations managing greenways and trails should expand signage and interpretive education programs along greenway corridors to educate users of unique geological, cultural, and ecological features of the area.
- TDEC-RRD should coordinate with the Department of Safety to improve motor vehicle user education efforts for bicycle and pedestrian safety, encouraging the maximum safety of road bicyclists.

FUNDING

The creation of ISTEA in 1991 provided opportunities to the state and to communities to incorporate bicycle and pedestrian projects into the overall framework of transportation. However, funding for the projects was not guaranteed. Instead bicycle and pedestrian projects have to compete with road projects for the funding available or utilize the limited resources of the Transportation Enhancement Program in order to gain federal funding. Thus, local communities often are forced to make difficult choices between transportation needs and often choose to remove bicycle and pedestrian facilities from transportation plans.

The Transportation Equity Act of the 21st Century (TEA-21), successor to ISTEA, was signed into law in 1998. This law continues the integration of bicycling, walking and other alternative transportation modes into the transportation mainstream and enhances the ability of communities to invest in projects that improve the safety and practicality of bicycling and walking for everyday travel. TEA-21 provides the funding, planning and policy tools necessary to create more walkable and bicycle-friendly communities.

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Bicycle and pedestrian projects are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety and other TEA-21 programs. To be eligible for funds, bicycle projects must be principally for transportation purposes, rather than recreation, and must be designed and located pursuant to the transportation plans required of States and Metropolitan Planning Organizations.

In Tennessee, the issue is one of changing priorities. Bicycle and pedestrian facilities continue to compete with highway and road construction dollars. The more bicycle and pedestrian facilities planned and constructed, the less funds are available for general road construction. The **Surface Transportation Program (STP)** of TEA-21 allows funds to be used for either construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking. TEA-21 adds the modification of public sidewalks to comply with the Americans with Disabilities Act as an activity that is specifically eligible for the use of these funds.

TEA-21 requires that a minimum of ten percent of each state's annual STP funds be set aside for transportation enhancement activities to fund efforts such as bicycle and pedestrian trails and facilities, rail corridor acquisition and rail-trail development, road corridor landscaping and bicycle safety. Tennessee receives \$13 million per year for these transportation enhancement activities. There are also other programs and funds available within TEA-21 for trails-related alternative transportation, but use of these funds are not currently being maximized in Tennessee for such purposes, except through the Recreation Trails Program. These include:

National Highway System Funds — may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways.

Hazard Elimination and Railway-Highway Crossing programs — Another 10% of each state's STP funds are set aside for this program which addresses bicycle and pedestrian safety issues, identifying and correcting locations which may constitute a danger to motorists, bicycles and pedestrians. Funds may be used for safety studies on any publicly owned bicycle or pedestrian pathway or trail, or any safety-related traffic calming measure. Improvements to railway-highway crossings shall take into account bicycle safety.

Congestion Mitigation and Air Quality Improvement Program (CMAQ) — funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways or non-construction projects such as maps, brochures, and public service announcements related to safe bicycle use

Recreation Trails Program — funds may be used for all kinds of trail projects, primarily recreation in nature. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for non-motorized trail uses, and 40 percent for diverse trail uses (any combination). This program is administered by TDEC-RRD, not the TDOT.

Federal Lands Highway Program — includes provisions for pedestrian and bicyclists in conjunction with roads, highways, and parkways. Priority for

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funding projects is determined by the appropriate federal land agency impacted. Annual discretionary funds are available for high profile highway and trail projects, but applications must be coordinated through the TDOT. Funds are typically allocated for projects that involve federal agencies such as the National Park Service and the National Forest or have national significance.

National Scenic Byways Program — funds may be used for construction along a designated scenic byway or a facility for pedestrians and bicyclists. In order to receive funds, Tennessee must establish a state scenic byways program.

Transit Programs and Enhancement Activities — funds are available to improve pedestrian and bicycle access to a mass transportation facility that establishes or enhances coordination between mass transportation and other transportation. In addition, the Transit Enhancement Activity program sets aside a small percentage of funds for projects including bicycle storage facilities and bike racks for mass transit vehicles.

For all of these programs, the Federal government has set criteria with which the State of Tennessee must comply with in order to become eligible for funding.

All funding programs are competitive and should be based on highest need. It is important that communities work closely with the TDOT and their local Metropolitan Planning Organization to establish bicycle and pedestrian improvement projects as priorities. Various programs have different local match requirements.

Other sources of funding, including the federal Land & Water Conservation Fund (L&WCF) and state Local Park and Recreation Fund (LPRF) are also important funding tools for greenways and trails. Only local governments are eligible for LPRF funds, a program established in the early 1990's to fund the acquisition and development of local parks. The L&WCF, after five years without state and local funding, has recently been re-authorized by Congress in 1999 with hopes that permanent funding will be provided in 2000. Both the LPRF and L&WCF programs are administered by the Tennessee Department of Environment & Conservation, Recreation Resources Division.

Tennessee is fortunate to have substantial funding opportunities for urban greenways and trails, but there are still funding needs that cannot be sufficiently met through existing programs. The greatest need throughout the state continues to be for acquisition funds to protect our state's natural and cultural resources and to establish greenway and trail corridors. Funding for planning and design of trails and greenways is especially limited through most existing grant programs, making it difficult, especially in smaller communities, to initiate and implement greenway and trail efforts.

The sustainability of greenways and trails in Tennessee relies on the creation of public/private partnerships. With government agencies downsizing, the support and dedication of trail users and interest groups will be essential to develop, maintain and preserve our state's greenways and trails system.

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Guiding Principle — *The State should ensure that existing greenways and trails funding resources are used strategically to develop a statewide system of greenways and trails.*

The Governor's Council Recommends These Actions —

- The State should support re-invigoration of the Land and Water Conservation Fund (LWCF) and encourage use of future state and local LWCF funding for greenways and trails.
- TDEC should focus Land Acquisition Funds to help acquire lands along regional and state greenways and trails projects.
- TWRA should support greenways and trails by selecting projects for funding through the Wetland Acquisition Fund that enhance greenway and trail opportunities.
- TWRA should continue to work with state and local river-based greenway projects to assist in river access development.
- TDEC is encouraged to continue to provide incentives for Local Parks and Recreation Fund (LPRF) applicants for greenway and trail projects.
- TDOT is encouraged to continue to focus distribution of Transportation Enhancement Funds for greenway and trail projects.
- TDOT should encourage communities to seek funding through other eligible funding mechanisms provided through TEA-21 for greenway and trail projects (including CMAQ, Scenic Byways, and FHWA Discretionary Funds) and consider using portions of remaining Surface Transportation Funds for bicycle and pedestrian access development both statewide and locally (beyond 10% Transportation Enhancement Funds).
- The Governor's Council on Greenways and Trails should continue to review state-level administrative policies for implementing the Recreation Trails Program and the Transportation Enhancement Program (both under TEA-21).
- TDOT should re-consider current departmental policy prohibiting the eligibility of acquisition projects under the Transportation Enhancement Program that meet requirements of TEA-21.
- TDEC-RRD and the Governor's Council on Greenways and Trails should ensure that adequate funding is dedicated through the Recreation Trails Program for backcountry trail projects, including hiking, mountain biking, equestrian, water trails and off-road motorized vehicles.
- Communities should coordinate with their local Metropolitan Planning Organization (MPO) or the TDOT Office of Local Programs to establish bicycle and pedestrian improvement projects as a local and state priority and ensure eligibility through federal TEA-21 programs.
- Development Districts and Local Planning Offices (Dept. of Economic & Community Development) should assist communities in development grant applications as needed.

Guiding Principle — *The State should support the creation of new funding sources to provide for unmet greenways and trails needs.*

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The Governor's Council Recommends These Actions —

- The State should create a permanent annual planning grant program for greenway and trails, modeled after the successful Bicentennial Greenways and Trails Grant Program, that would provide seed money to state, federal and local greenway and trail initiatives for planning, design, and other preliminary project costs. Current public funding sources have strict limits or do not allow these costs to be reimbursed.
- All pertinent State agencies should evaluate new funding opportunities for the acquisition of greenway and trail corridors and significant resources.
- Prospective trail developers should explore other federal and state programs where greenway and trail projects may qualify for funding, including the Corps of Engineers, Economic Development Administration, Department of the Interior, Appalachian Regional Commission, Community Development Block Grant Program, Tennessee Industrial Infrastructure Program, Tennessee Wildlife Resources Agency, Tennessee Urban Forestry Program, and the Tennessee Historical Commission.
- Private motorized recreation advocacy organizations should work with the state legislature to draft legislation to create a dedicated state funding source for motorized trail development, management and maintenance through Off-Highway Vehicle (OHV) user fees or gasoline tax revenue from off-highway vehicle use.
- TDEC-RRD should support a study to investigate the feasibility of implementing a single trail user fee system to support management and maintenance of state and federal trails and better coordination among land management agencies.

Guiding Principle — The State should facilitate public/private partnerships at the state and federal level and promote development of partnerships at local levels and funding and development opportunities.

The Governor's Council Recommends These Actions —

- TDEC State Parks, the Department of Agriculture's Division of Forestry, the Tennessee Wildlife Resources Agency, the Cherokee National Forest, the Tennessee Valley Authority and the National Park Service should designate a full-time or part-time coordinator to facilitate volunteer development and maintenance support of trails under each agency's management responsibility.
- State and Federal agencies should develop partnerships with statewide trail and greenways organizations to facilitate the implementation of regional and state projects and support the long-term management and maintenance of trails. The creation of an interagency committee or task force would help coordinate efforts and discuss common trail issues and opportunities.
- State, federal and local governments are encouraged to develop Management Agreements or Memorandums of Understanding between partners specifying the roles and responsibilities of each partner in achieving the goals of greenway and trail projects.

PLANNING

Incorporating greenways and trails into infrastructure planning under the Tennessee Public Chapter 1101 Growth Policy Mandate is an opportunity to plan for alternative transportation and protect needed open space. Under this law, Tennessee municipalities and counties must plan growth areas and take into consideration impacts on agricultural lands, forests, recreation areas and wildlife management areas. With local planning committees planning for the future of their communities, the timing is right to also plan for greenways and trails as *green infrastructure*. Just as planning for roads and utilities is important in growing communities, so is the need to set aside open space and greenway corridors for the future, providing sufficient room for growth of public recreation areas as well as providing alternative transportation and protecting our urban and rural natural resources.

It is also important that local communities take the initiative to plan for bicycle and pedestrian access for local roadways. Local bicycle plans should be developed and adopted by the local Metropolitan Planning Organization. States and Metropolitan Planning Organizations (MPOs — a planning agency established for each urbanized area of more than 50,000 population) are required to carry out a continuing, comprehensive, and cooperative transportation planning process that results in two products:

1. A long-range (20 year) transportation plan that provides for the development and integrated management and operation of transportation systems and facilities, including pedestrian walkways and bicycle transportation systems. Both state and MPO plans will consider projects and strategies to increase the safety and security of the transportation system for non-motorized users.
2. A Transportation Improvement Plan (TIP) that contains a list of proposed federally supported projects to be carried out over the next three years. Projects that appear in the TIP should be consistent with the long-range plan.

These planning initiatives must involve the active and on-going participation of the public, affected agencies, and transportation providers. Section 1202 of TEA-21 says that bicyclists and pedestrians shall be given due consideration in the planning process (including the development of both the long-range transportation plan and transportation improvement plan) and that bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities except where bicycle use and walking are not permitted. Transportation plans and projects shall also consider safety and contiguous routes for bicyclists and pedestrians.

Communities that wish to incorporate bicycle and pedestrian facilities for alternative transportation into their overall transportation system should prepare plans mapping out routes and corridors for future bicycle and/or pedestrian access. This will help facilitate cooperation of the Department of Transportation to incorporate bicycle and pedestrian facilities when future road projects are funded.

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Planning for greenways and trails must be driven at the grass-roots level and involve public participation. Regardless of the type of greenway or trail, general questions and concerns are often raised about the potential impacts on the environment, property owners, or other issues. Sometimes opposition from landowners or special interest groups occurs. Strong public support is necessary and strengthens greenway and trail projects and their opportunity for success.

Guiding Principle — The State of Tennessee will facilitate long-range (strategic) planning for the development and maintenance of a sustainable state greenways and trails system. The Tennessee Greenways and Trails Plan with its statewide citizen input, forms the nucleus of this on-going process.

The Governor's Council Recommends These Actions —

- The Council, in cooperation with TDEC-RRD, will review the Tennessee Greenways and Trails Plan annually with updates prepared every two to five years as needed.
- The Council, in cooperation with TDEC-RRD, will identify opportunities to move from fiscal year to multi-year planning/funding in the implementation of individual components or broader concepts of the plan.
- In cooperation with TDEC-RRD, the Council will evaluate effectiveness of actions as outlined in the plan.

Guiding Principle — The State of Tennessee, through a full-time Greenways and Trails Coordinator and full-time Bicycle/Pedestrian Coordinator, should provide greater support to communities, agencies and organizations in the planning of greenways and trails and advocate within TDOT and TDEC for bicyclists and pedestrians in order to achieve a statewide system of greenways and trails that serves the needs of all users.

The Governor's Council Recommends These Actions —

- TDEC-RRD and TDOT should work cooperatively, and with private partners such as the Tennessee Parks and Greenways Foundation, to identify and implement funding mechanisms for greenway and trail planning.
- TDEC's Greenways & Trails Coordinator and TDOT's Bicycle/Pedestrian Coordinator should collaborate to prepare a statewide Bicycle Plan every five years that includes existing and potential bicycle routes or incorporate bicycle/pedestrian facility needs within the State Transportation Plan.
- TDOT should establish Bike Routes along all state scenic routes where feasible.
- TDOT should meet local and statewide needs for bicycle and pedestrian facilities and are encouraged to use additional funding with a future goal to have all projects including bicycle and pedestrian facilities.
- All state and local highway projects should be planned with bicycle and pedestrian access where appropriate and feasible.
- TDOT is encouraged to add to public meeting notifications an invitation to bicycle and pedestrian advocates in establishing bicycle and pedestrian facilities in the design of new roads.
- TDEC-RRD should provide planning assistance to communities for the development of greenways and trails.

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- TDEC-RRD should prepare a statewide map of community and state trail projects, both existing and proposed, and identify potential trail linkages and corridors.
- TDEC-RRD should facilitate communication with neighboring states to identify long-distance trail connections and opportunities to link trails of all types into regional and national trail systems.
- TDEC-RRD should work with the Department of Economic and Community Development (ECD) to identify areas of the state that are economically depressed to target greenway and trail tourism and revitalization opportunities. ECD grant programs should promote the inclusion of trails, including Industrial Park developments and community revitalization efforts.
- TDEC-RRD should coordinate with state and federal agencies to establish regional and statewide greenway and trail opportunities that link our state and national parks, state and national forests and other public recreation areas.

Guiding Principle — Communities and State agencies should be proactive in planning greenway and trail infrastructure throughout their localities and establishing linkages with neighboring communities.

The Governor's Council Recommends These Actions —

- All proposed greenway and trail projects should involve grass roots support of local or statewide trail, conservation or neighborhood organizations. Public support and involvement throughout the planning and development of a project are important to the long-term success of greenway and trail projects. Creating local advisory councils or friends groups can serve an important role in guiding the development of greenways and trails that best serve the entire community or user group.
- All proposed greenway and trail projects should involve the public in planning to help mitigate greenway and trail user conflicts. It is important to define the primary purpose of the project (conservation or recreation) and the intended user groups.
- Communities should prepare local bicycle and pedestrian plans for future funding and development opportunities. These plans should be adopted by the regional Metropolitan Planning Organization (MPO) or included in the state Transportation Improvement Plan (coordinated through local TDOT offices) so that future road projects include alternative transportation options, including bicycle and pedestrian facilities, that the communities desire.
- Local communities should include planning for greenways, trails and open space into local growth boundary and infrastructure plans in accordance with Tennessee Public Chapter 1101. Communities should ensure that proposed land use classifications do not restrict greenway and trail development.
- Regional agencies such as Development Districts and Resource Conservation and Development Councils should be involved in planning and facilitating regional greenway and trail networks
- TDOT and local governments should incorporate bicycle lanes, where feasible and appropriate, in the planning, design and acquisition stages of new highway and rehabilitation projects to ensure adequate right-of-way is acquired.

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- Agencies including the National Park Service, the U.S. Forest Service, the Tennessee Valley Authority and Tennessee State Parks should target opportunities for greenway and trail development in cooperation with adjacent gateway communities.
- Communities, TDOT and TDEC-State Parks should be proactive in preserving abandoned rail corridors for recreation use, alternative transportation and the possible need for future re-establishment of railroad use before railroad abandonment occurs.

DEVELOPMENT ISSUES

Tennessee public land managers face daily challenges to accommodate the increasing demand for recreation trails. Meeting these needs without compromising the conservation of natural and cultural resources, and having sufficient funds to develop and maintain trails often strains limited resources and conflicts with other objectives of the agency.

Finding the balance is important and should include involving the trail users and addressing conflicting issues early. Private property rights must be respected. The concerns of private landowners affected by a greenway or trail project should be addressed and solutions offered by the trail developer. Sometimes these concerns are focused on liability, and other times it is a concern about safety and the belief that trails will increase crime. All alternatives should be explored and landowner issues adequately addressed.

The need to address motorized recreation is real in Tennessee. Interest in the sport is growing rapidly while public land to ride ATV s, off-road motorcycles and four-wheelers are declining in Tennessee. Motorized trail users express the right to recreate on public land, while public land managers resources are limited. To date they haven t had the means to properly manage and maintain areas where OHV trails exist. Instead of ignoring the issue, OHV users are encouraging the state to proactively address the issue and to develop solutions that meet the needs of the users while protecting the natural environment.

Guiding Principle - The State of Tennessee should work with agencies, communities and organizations to provide trails and greenways for user types with significant unmet needs.

The Governor's Council Recommends These Actions —

- TDOT should develop bicycle and pedestrian facilities in combination with all new state road construction and improvement projects where feasible and safe. Sufficient right-of-way should be purchased to safely accommodate bicycle lanes.
- State land management agencies should develop a strategy for preserving existing and providing new motorized trails in Tennessee.
- TDOT's Office of Local Programs is encouraged to work with local officials to evaluate proposals for rails-to-trails.

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- The TDEC Policy Office should facilitate developing a balanced state policy to address Off-Highway Vehicle (OHV) use in Tennessee and propose solutions to address the need for permanent public OHV recreation areas. Development of the policy should be by state land management agencies and statewide OHV and conservation advocates. Proposed solutions to the lack of motorized trails include developing regional OHV parks on suitable land yet to be acquired or leasing land for OHV use. Public/private partnerships will also be considered.
- The TDEC Policy Office should seek funding for an OHV feasibility study to determine the need for OHV recreation areas and potential economic benefits of OHV recreation in Tennessee.
- TDEC's Office of General Counsel should advise the Governor's Council on Greenways and Trails of opportunities to reform Tennessee's existing Recreation Use Statute to further protect landowners and communities from liability threats that prevent many landowners from participating in greenway and trail developments and increase insurance premiums. The existing Recreation Use Statute (TCA-70-1-101) relieves landowners from liability if they do not charge a user fee and are not grossly negligent, but does not relieve landowners from having to pay to defend themselves against a lawsuit.
- The Governor's Office should continue to work with state agencies to establish new state-level initiatives and full implementation of current projects such as the Cumberland Trail State Park from Hamilton County to Cumberland Gap and the John Wilder Bike Trails along Highways 70 and 11W from Memphis to Bristol.
- Greenway and trail projects should avoid utilizing the power of eminent domain to acquire greenway and trail corridors, except where a significant natural or cultural resource is jeopardized by proposed development. Private property rights should be respected and maintained; trail developers should incorporate design and development strategies to alleviate property owner concerns.
- TDEC-RRD and Tennessee State Parks should cooperatively identify and coordinate planning for all types of trails statewide where trail user needs are currently unmet.

DESIGN

Good design standards are important not only for the safety of trail users, but also to provide an enjoyable trail experience and prevent trail degradation from natural causes and trail use. Trail design also affects the impact of a trail on the natural environment. Trail planners should research all potential design issues prior to beginning construction. Advance planning and early problem identification will extend the life of a trail and reduce long-term maintenance costs.

Ensuring accessibility of trail opportunities to trail users with disabilities is the law. Planning an accessible trail and incorporating special features into the design of a trail means that more users will be able to enjoy the trail experience.

Guiding Principle — *Greenways and trails should be designed to maximize user enjoyment and satisfaction, while protecting natural and cultural resources to the*

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fullest extent possible and meeting federal and state regulations. Greenways and trails in Tennessee should be held to at least minimum design guidelines.

The Governor's Council Recommends These Actions —

- TDOT should adopt and implement AASHTO design guidelines for bicycle and pedestrian access on all state roadways, including urban routes. Federal AASHTO standards are currently being revised and improved — new design standards will be available in late 1999. Special consideration should be given to user design concerns including adequate shoulder width, intersections, bridge crossings, safety signage, access, sight distance, pedestrian road crossings and maintenance of road shoulders. Rumble strips and storm sewer grate placement should be designed in ways not to reduce bicycle use or enjoyment, especially on designated Bike Routes. A good reference to incorporate is the publication called Flexibility in Highway Design published by the Federal Highway Administration.
- All foot traffic trails must comply with the Americans with Disabilities Act of 1990 (ADA). The ADA requires that equal opportunities be afforded for persons with disabilities. Every pathway must comply with the ADA, ensuring accessibility of trails to all citizens, regardless of ability levels. This typically means a paved trail surface meeting specific design criteria. Late in 1999, new design requirements will be announced by the Federal government helping communities determine the level of accessibility required in unique circumstances and protection of sensitive environmental habitat.
- Trails should be designed based on the intended user's needs and desired trail type. Special design features are required for various trail users.
- Trails should be designed taking into consideration the protection of natural and cultural resources and habitat. Erosion control features should be included in all trail projects. The implementation of best management practices appropriate for the specific trail type is encouraged.
- TDEC should work with private motorized recreation advocacy organizations, land management and environmental regulatory agencies to develop best management practices and environmentally sound construction designs suitable in Tennessee specific to off-highway vehicle recreation trails.
- Mountain bike trail development should be designed to meet guidelines of the International Mountain Bike Association (IMBA).
- Off-highway motorcycle trails should follow recommended design guidelines of the American Motorcycle Association.
- Trail designers should consider access of emergency response and maintenance workers to the trail as needed.
- TDEC-RRD and the Governor's Council on Greenways and Trails should develop minimum design guidelines for all types of trails in Tennessee.
- TDEC-RRD should develop appropriate standardized signage for components of the state greenways and trails system.

MANAGEMENT/MAINTENANCE

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Trails of all types cannot be built and left to maintain themselves. Proper maintenance and management is important to ensure proper security, safety, environmental protection and enjoyment of the trail by all trail users. Organized trail user volunteers are an important asset to our state's trail system. Public land management agencies are encouraged to partner with trail organizations to manage and maintain trails and leverage public investment.

Guiding Principle — Tennessee's greenways and trails will be managed and maintained to preserve the integrity of the natural resources and enhance the recreation experience of the users.

The Governor's Council Recommends These Actions —

- Land management agency representatives of the Governor's Council on Greenways and Trails should continue to participate in quarterly meetings and seek guidance from the Council and sister agencies regarding management and maintenance issues.
- Tennessee State Parks should re-establish a permanent trail crew to handle maintenance of all state park trails.
- Tennessee State Parks should conduct a comprehensive assessment of State Park trail conditions and maintenance needs. Current trail maintenance needs should be addressed before considering new construction.
- Tennessee State Parks should seek on-going partnerships with volunteer trail organization to perform routine and major maintenance on State Park trails.
- Tennessee State Parks should establish public/private partnerships to continue implementation of the State Scenic Trail System.
- All trail management agencies could benefit from an adopt-a-trail program where volunteer organizations, businesses, and individuals adopt a specific trail, section of trail, or even a mile of trail to perform routine trash pick-up and minor maintenance.
- TDEC should consider funding through the Recreation Trails Program for region-based trail maintenance equipment to be shared by State and Federal land management agencies.
- Local and statewide trail user groups (of all types) should actively volunteer and participate in trail maintenance on public lands. Volunteering to maintain the trail to the land manager's specifications and repair trail damage will create a positive impression to trail managers and promote the understanding that trail users are good stewards of the land.
- Trail degradation by specific types of trail users should be properly addressed. A local or regional trail organization representing that user group should be contacted and asked to participate in routine maintenance of the trail in order to keep it open to that user group. If degrading trail impact continues, land managers should consider limiting the trail's use.
- TDOT shall properly oversee existing and future Bike Routes by eliminating hazardous debris and perform timely repairs to pavement damage. Where maintenance contracts exist, TDOT should strengthen contract language to ensure clear bike routes and oversight.

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- TDEC-RRD should coordinate and distribute guidelines on proper trail maintenance techniques to land management agencies and aid land managers in researching and resolving trail management issues.

Guiding Principle — *The Governor's Council on Greenways and Trails shall provide a forum for resolving greenway and trail use conflicts and advising trail planners and trail organizations on appropriate trail use, while encouraging shared use trails where practical and feasible.*

The Governor's Council Recommends These Actions —

- Land managers and trail planners are encouraged to provide for a variety of trail user experiences.
- Trail managers are encouraged to identify the intended users of trails during the trail planning phase and clearly identify appropriate users through signage.
- If trail user conflict arises, trail managers are encouraged to first understand the nature of the trail conflict and not jump to conclusions or make assumptions about an entire trail user group based on the actions of a few.
- Proper trail design, management and education of trail users are important factors in preventing and ending trail conflicts.
- Mediation of trail user conflict by gathering representation from all user groups who use the trail can be beneficial in determining strategies and making decisions about appropriate trail use. Closing a trail to a specific user group should only be considered as a last resort where trail conflict is occurring.

CONSERVATION

While the development of recreation trails provides an opportunity for Tennesseans to enjoy the outdoors and exercise, protection of linear greenway corridors is vital to the long-term health of Tennessee's natural environment. Protecting our river corridors, scenic vistas, unique habitats, and open spaces are a long-term investment for our future generations to enjoy Tennessee's natural resources. Partnerships are the key to protecting linear greenways. Government agencies must work cooperatively and creatively with non-profit organizations, land trusts, private landowners, and industry to establish linear corridors. State and federal agencies should promote local initiatives and provide needed technical assistance and education to make local greenway projects a success.

Guiding Principle — *Tennessee should protect our natural and cultural resources and improve opportunities for wildlife and environmental preservation through the establishment of linear greenway corridors.*

The Governor's Council Recommends These Actions —

- TDEC-RRD should work with non-profit organizations and land trusts to expand opportunities for conservation easements in proposed greenway and trail corridors.
- TDEC and the Department of Agriculture, Division of Forestry, should expand positive working relationships with statewide timberland companies and the

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Tennessee Forestry Association to encourage conservation of unique habitats and expand opportunities for recreation uses.

- State and federal land holdings should be designated for various levels of appropriate trail development to protect sensitive habitats and environmental resources from potentially destructive recreation use.
- Land acquisition and conservation easements should be sought by local, state and non-profit organizations along linear greenway corridors protecting waterways, ridgelines and protecting significant wildlife corridors.
- Designation of greenway and trail corridors should not result in closure of land to current hunting and fishing opportunities, but instead greenway and trail supporters should work cooperatively with management agencies to develop shared use agreements and management policies.
- TDEC Division of Natural Heritage, Recreation Resources Division, in partnership with the Tennessee Wildlife Resources Agency and the Conservation Fund should develop a map identifying greenway conservation corridors and opportunities.
- TDEC-RRD and the Tennessee Historical Commission in partnership with TDOT should develop a map identifying routes of trails and roads that might be developed or designated as historic parkways or rural roadways linking archaeological, historical or other cultural sites.
- TDEC-RRD should organize and distribute educational materials promoting conservation design and development practices for residential and commercial developers that promote local greenway and trail development and the maximum protection of open space.
- The Governor's Council on Greenways and Trails should promote changes to Tennessee's tax structure to allow donations of conservation easements by individuals and corporations and tax benefits spread over a period of six years instead of one.
- Conservation of at-risk watersheds identified by the Nature Conservancy should be given priority for designating Tennessee greenway efforts.
- The Tennessee Wildlife Resources Agency should continue to partner with local communities and farmers to supply matching funding where appropriate wildlife and conservation benefits exist. Agricultural areas should target greenway designation along waterways in cooperation with the Natural Resource Conservation Service (NRCS) program that promotes conservation buffers through farmland. This funding program subsidizes farmers for enrolling their land in conservation buffers.
- The Department of Agriculture, Division of Forestry, should continue efforts to obtain federal funding for the Forest Legacy Program. If successful, at least portions of these funds should be dedicated for greenway corridor acquisition.
- TVA should continue activities associated with its Clean Water to support community-based water quality improvement projects such as planting of native buffers along waterways, stream clean-up programs, water quality monitoring, and promotion of greenways and blueways along streams and rivers.
- TDEC-RRD, TDEC Natural Heritage Division and TWRA should continue promoting the combined protection of wetlands with the establishment of urban greenways.

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- TDEC-RRD and TDEC Natural Heritage Division should promote the conservation or restoration of native plants along greenway corridors in an attempt to re-establish suitable wildlife habitat and eliminate invasive, exotic plant communities.
- TDEC-Division of Natural Heritage should revive the State Scenic Rivers Program, providing technical assistance and information about urban waterway conservation practices to communities.

COMMUNITY GREENWAYS & TRAILS

Greenways and trails can enhance a community, providing opportunities for recreation, open space, improved quality of life, economic growth, and a sense of place. Greenways and trails can substantially impact the appearance of a community, revitalizing areas of urban blight and neglected creeks, and creating a greener landscape.

Local communities should look beyond the short-term recreation benefits of trail projects and consider opportunities to enhance environmental protection efforts, educate local residents about natural habitats and conservation efforts, and make a difference locally. Conservationists can use trails to achieve multiple objectives and establish linear conservation corridors at the same time.

Guiding Principle — The State should encourage every community to develop greenways and trails and access to resources to make development happen.

The Governor's Council Recommends These Actions —

- Communities should incorporate greenways and trails in the development of local growth boundaries, and land use and infrastructure planning efforts.
- Communities that already provide walking trail opportunities should also consider development of non-traditional urban trail opportunities such as mountain biking trails, equestrian trails, water trails and off-road motorized trails.
- Communities should incorporate trail construction plans that benefit alternative transportation objectives — providing linkages to community facilities and reducing traffic congestion.
- Communities should prepare maintenance and management plans taking into account security and other local considerations prior to constructing greenways and trails. In an urban setting, maintenance and security are the key elements to maintaining a well-used trail. Poorly maintained trails result in less usage and more opportunity for vandalism and security problems.
- Communities should incorporate opportunities for environmental education into local greenway and trails projects, where appropriate and feasible.
- Communities should work closely with neighboring communities to create connections at a regional level.
- Communities should adopt local bicycle and walking trail plans and have these plans approved by the local Metropolitan Planning Organization or state DOT office. This will help facilitate TDOT support of local interests for bicycle and pedestrian facilities and help promote state and federal applications for funding.

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- Communities should adopt road design standards that include opportunities for bicycle and pedestrian access.
- Communities should promote the health and fitness benefits of greenways and trails through local park and recreation departments or other recreation providers where local recreation departments do not exist. Special events such as National Trails Day or events planned through the Governor's Council on Health and Physical Fitness can promote local trails to all ages and ability levels and encourage healthy lifestyles.
- Communities should aggressively acquire and protect open space and conservation corridors, seeking permanent conservation easements wherever possible, in order to protect the diminishing natural resources within urban areas.
- Communities should consider the passage of local ordinances to protect stream corridors, ridgelines, and other natural or cultural features unique to each community.
- Communities should consider instituting local parkland dedication ordinances and greenway/trail plans to encourage protection and development of natural resources, open space, and greenway corridors. Such ordinances place the burden of funding park and greenway acquisition and development on new residential and commercial developments, not long-term community residents.
- Communities should seek funding for greenways and trails through both public and private sources. Grant resources are available through competitive application processes from the state, requiring local matching funds.
- Landowner concerns for greenways and trails crossing or adjacent to their land should be accommodated where possible by providing fencing/buffering and necessary security features to relieve safety and privacy concerns.
- Communities should increase efforts to protect local open space and develop urban greenways, providing opportunities for enjoyment of the natural environment close to home and reviving features such as waterways that have been urbanized by culverts and pollution.
- Communities are encouraged to work with TDOT to preserve historic bridges for use with trail projects.
- Communities and local governments are encouraged to work with the Tennessee Historical Commission in inventorying potentially historic properties, nominating the most significant historic properties to the National Register of Historic Places, assisting persons who wish to earn tax credits by rehabilitating historic properties, getting technical assistance and advice in establishing local programs and ordinances to protect historic properties, and securing grants under the National Historic Preservation Act or from the Tennessee Wars Commission.

Germantown Leverages Greenway Development

The City of Germantown is a leader in achieving local greenway and trail objectives. Germantown city leaders have passed an aggressive park land dedication ordinance and a local greenway plan. These initiatives require developers, when beginning a new construction project, to build the section of trail (at the developer's expense) that has been planned for greenway development or dedicate funds toward a park or greenway development in another area of the community if a portion of trail is not designated for their property. The result is a growing system of greenways and a remarkable achievement — Germantown now has a park or trail within mile of every citizen in the city. In a growing community like Germantown, this foresight on behalf of community leaders has made Germantown a leader in greenway and trail development, helping them achieve national recognition.

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Greenway & Trail Resources

Planning a New Greenway or Trails Project? The Internet provides a wealth of information on greenways and trails at your fingertips. The following web sites are just a sample of greenway and trail resources available on-line.

If you are beginning a new project or have a specific question about greenways and trails, the following list of best trail internet web sites is a good place to start your search. These sites include search engines to conduct keyword searches and links to other interesting sites.

Best Greenway & Trail Web Sites:

American Trails — www.outdoorlink.com/amtrails/

International Mountain Bike Association — www.imba.com

Rails-to-Trails Conservancy — www.railtrails.org

South Carolina Trails — www.sctrails.net

The Conservation Fund's American Greenways Program and the Rails-to-Trails Conservancy *National Greenways & Trails Clearinghouse* — www.trailsandgreenways.org

State Clubs & Non-Profit Organizations

Appalachian Mountain Bike Club — www.serversolutions.com/ambc/

Appalachian Trail Conference — www.atconf.org

Cumberland Trail Conference — <http://users.multipro.com/cumberlandtrail/>

Foothills Land Conservancy - www.foothillsland.org

Land Trust for Tennessee - <http://landtrusttn.com/>

North Chickamauga Creek Conservancy — www.chattanooga.net/nchick

Smoky Mountain Hiking Club - www.pageright.com/smhc/

Southern Appalachian Highlands Conservancy - www.appalachian.org/

Southern Appalachian Man and the Biosphere Cooperative — <http://sunsite.utk.edu/samab/>

Southern Four Wheel Drive Association - www.off-road.com/clubs/sfwda.html

Tennessee Conservation League - www.utm.edu/departments/ed/cece/tcl/tcl.shtml

Tennessee Eastman Hiking and Canoeing Club — <http://wbmaster@tehcc.org>

Tennessee Environmental Council - www.nol.com/tec.html

Tennessee Forestry Association - www.tenfor.org/

Tennessee Horse Council — <http://www.tnhorsecouncil.com/>

Tennessee Parks & Greenways Foundation — www.tennngreen.org

Tennessee Rail-Trail Advisory Council (TRAC) — <http://members.aol.com/TRAC2TRAIL/depot.htm>

Tennessee River Gorge Trust - www.trgt.org/

Tennessee Scenic Rivers Association — <http://home.earthlink.net/~smgibbon/tsra/>

Tennessee Trails Association - www.tn-trails.org/

Tennessee Urban Forestry Council - www.state.tn.us/agriculture/forestry/tdfuf.html

Tennessee Valley Canoe Club — <http://home.earthlink.net/~smgibbon/tvcc/>

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The Civil War Trust - www.civilwar.org/

The Nature Conservancy - www.tnc.org/

Volunteer State Trailrider Association (VSTA Statewide Motorized Trail Club) - www.vstarider.com

Windrock ATV Club - www.kornnet.org/watvclub/

State and Federal Agencies & Resources:

Colorado Trails Program — www.dnr.state.co.us/trails/planning_trails.html

EPA Livable Communities — www.livablecommunities.gov/toolsandresources/index.htm

Federal Highway Administration - Bicycle Pedestrian Program - www.fhwa.dot.gov/hep10/biped/biped.html

Federal Highway Administration - www.fhwa.dot.gov/

Gov. Council on Physical Fitness & Health - www.state.tn.us/health/healthpromotion/

National Register of Historic Places - www.cr.nps.gov/nr/

National Park Service s Rivers, Trails & Conservation Assistance Program (RTCA) - www.ncrc.nps.gov/rtca/

South Carolina Trails Program — www.sctrails.net/

Tennessee Department of Agriculture - www.state.tn.us/agriculture/

Tennessee Department of Transportation - www.state.tn.us/transport/

Tennessee Department of Environment & Conservation — www.state.tn.us/environment/

TDEC Recreation Resources Division - www.state.tn.us/environment/recreation/

TDEC Division of Archaeology - www.state.tn.us/environment/arch/

TDEC Division of Geology - www.state.tn.us/environment/tdg/

TDEC Division of State Parks - www.state.tn.us/environment/parks/

TDEC Division of Natural Heritage - www.state.tn.us/environment/nh/

TDEC Historical Commission - www.state.tn.us/environment/hist/hist.htm

TDEC Water Pollution Control - www.state.tn.us/environment/wpc/

Tennessee Department of Tourist Development - www.tourism.state.tn.us/index.html

Tennessee Division of Forestry - www.state.tn.us/agriculture/forestry/forestry.html

Tennessee Greenways & Trails Program, TDEC Recreation Resources Division — www.state.tn.us/environment/recreation

Tennessee Looks Good To Me initiative—www.tnlooksgood.org

Tennessee Rivers Assessment - www.state.tn.us/environment/riv/

Tennessee State Parks - www.state.tn.us/environment/parks/

Tennessee Valley Authority — www.tva.gov

Tennessee Valley Authority Clean Water Initiative - www.tva.gov/orgs/cleanwat.htm

Tennessee Wetlands Strategy - www.state.tn.us/environment/epo/wetlands/

Tennessee Wildlife Resources Agency - www.state.tn.us/twra/index.html

U.S. Environmental Protection Agency — www.epa.gov

U.S. Fish & Wildlife Service — www.fws.gov

USDA Forest Service — www.fs.fed.us

USDA Natural Resource Conservation Service — www.nrcs.usda.gov

National Organizations:

American Canoe Association - www.aca-paddler.org/

American Farmland Trust - www.farmland.org/

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American Hiking Society (National Trails Day) — www.americanhiking.org/
American Horse Council — www.horsecouncil.org
American Motorcycle Association - www.ama-cycle.org/
American Rivers - www.amrivers.org/
American Trails — www.outdoorlink.com/amtrails/
Bicycle Federation of America - www.bikefed.org/
Blue Ribbon Coalition - <http://sharetrails.org>
International Mountain Bike Association (IMBA) - www.imba.com/
Land Trust Alliance (listing of Tennessee Land Trusts) - www.lta.org/
Land Trust Resources - www.possibility.com/LandTrust/
Mountain Bike Clubs of the Southeast U.S. — a listing of Tennessee Mountain Bike Trails
- www.singletracks.com/html/tennessee/shtml
Mountain Bike Resources Online - www.mbronline.com:80/mbr-info/contents.htm
National Trust for Historic Preservation - www.nthp.org/
National Off-Highway Vehicle Conservation Council (NOHVCC) - www.nohvcc.org
National Recreation and Parks Association — www.nrpa.org
Path Foundation — www.pathfoundation.org
Rails-to-Trails Conservancy (RTC) — www.railtrails.org or National Clearinghouse at
www.trailsandgreenways.org
River Network - www.rivernetwork.org/
Sierra Club (Tennessee) - www.sierraclub.org/chapters/tn/
Surface Transportation Policy Project - <http://transact.org/stpp.htm>
The Conservation Fund's American Greenways Program -
www.conservationfund.org/conservation/amgreen/
Trust for Public Land - www.tpl.org
United Four Wheel Drive Association - www.off-road.com/clubs/united.html

Where to Find Information on Using Trails:

Tennessee State Parks - www.state.tn.us/environment/parks/index.html
Tennessee Department of Agriculture -
www.state.tn.us/agriculture/market/atour/horses.html
TVA Land Between the Lakes - www.lbl.org/lbl
Cherokee National Forest - www.r8web.com/cherokee/
Tennessee Trails Association - www.tennesseetrails.org/
Volunteer State Trailriders Association (OHV) - www.vstarider.com
Big South Fork NRRA (NPS) - www.nps.gov/biso/
Great Smoky Mountain National Park (NPS) -
www.nps.gov/htdocs4/grsm/homepage.htm
U.S. Army Corps of Engineers - www.usace.army.mil/

Trail Etiquette/Conservation Resources:

Leave No Trace — www.lnt.org
Tread Lightly, Inc. - www.treadlightly.org/
Planning Trails w/ Wildlife in Mind — Colorado State Parks www.dnr.state.co.us/trails/

Other Greenway/Trail Resource Organizations:

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Millennium Trails — www.millenniumtrails.org/

BRAT — Bicycle Ride Across Tennessee www.state.tn.us/environment/parks/brat99.htm

U.S. Access Board (Accessibility) - www.access-board.gov/

Beneficial Designs (Trail Accessibility) - www.beneficialdesigns.com/

AmeriCorps - www.americorps.org/

Youth Conservation Corps - <http://pigpen.itd.nps.gov/ccso/ycc.htm>

National Trails Day - www.americanhiking.org/events/

Southeast Exotic Pest Control Council - www.webriver.com/tn-eppc/

Greenways & Trails Public Funding Resources —

National Park Service (Challenge Cost Share Program) - www.nps.gov/legacy/ccsp.htm

Tennessee Department of Transportation (TEA-21 Enhancement Funds) -

www.state.tn.us/transport/ISTEA/index.htm

Federal Highway Administration programs - www.fhwa.dot.gov/tea21/index.htm

Tennessee Department of Environment & Conservation, Recreation Resources Division (Recreation Trails Program, Local Park & Recreation Fund, Land & Water Conservation Fund) — www.state.tn.us/environment/recreation/

Tennessee Department of Environment & Conservation Land Acquisition Fund -

www.state.tn.us/environment/land/

Federal Highway Administration (TEA-21 Information)— www.fhwa.dot.gov/

Environmental Protection Agency — Livable Communities & Sustainable Development Challenge Grants — www.epa.gov/ecocommunity/sdcg

Tennessee Department of Economic & Community Development (Community Development Block Grant Program & Appalachian Regional Commission Program grants) — www.state.tn.us/ecd/grants_and_loans.htm

Tennessee Wildlife Resources Agency (Wetland Acquisition Fund, Stream Access Program) — www.state.tn.us/twra/index.html

Tennessee Urban Forestry Council (Urban Forestry Grants) -

www.state.tn.us/agriculture/forestry/tdfuf.html

Tennessee Wars Commission (battlefield preservation) -

www.state.tn.us/environment/hist/nhpa.htm

Special Note: This list was compiled in the fall of 1999 and current as of January 2000. Due to the nature of internet development, changes to web site addresses and additions to this list are anticipated.